CULTURAL RESOURCES INVENTORY REPORT
LABYRINTH CANYON ABANDONED MINE RECLAMATION PROJECT,
EMERY AND GRAND COUNTIES, UTAH

Prepared by
Utah Division of Oil, Gas and Mining
Abandoned Mines Reclamation Program

For submittal to
Bureau of Land Management, Price Field Office
Bureau of Land Management, Moab Field Office
Utah State Historic Preservation Office

Prepared by
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November 2004

ABSTRACT

Project Title: Labyrinth Canyon Abandoned Mine Reclamation Project, Emery and Grand Counties, Utah

Report Title and Date: Cultural Resources Inventory Report for the Labyrinth Canyon Abandoned Mine Reclamation Project, Emery and Grand Counties, Utah November 2004

Agencies: Bureau of Land Management, Price Field Office
Bureau of Land Management, Moab Field Office
Utah Division of State History

Project Number: Utah Division of State History Project No. U-04-EL-1283b

Permit Number: Utah Division of State History Permit U04-EL
Utah State BLM Permit 04-UT-81313

Project Description: Evaluations were made of the historic values of 22 abandoned uranium mine openings slated for closure by the Division of Oil, Gas and Mining's Abandoned Mine Reclamation Program. This cultural resource survey and resulting report were conducted in compliance with Section 106 of the National Historic Preservation Act.

Location: The project area is located in Labyrinth Canyon of the Green River in southeastern Utah in the area known as the Bowknot Bend. The project areas occur in sections 9, 10, 25, and 36, T25S, R17.5E, and sections 23 and 25, T25S, R17E in Emery and Grand counties, Utah. All surveyed portions are located on the Tenmile Point, Bowknot Bend, and Mineral Canyon USGS 7.5-minute topographic quadrangles.

Acreage and Jurisdiction: Approximately 35 acres were surveyed at six separate locations, all on lands that are currently undeveloped and under the jurisdiction of the Bureau of Land Management.

Personnel and Dates of Fieldwork: Everett Bassett conducted the cultural resources survey between September 14 and 17 2004. Four person-days of field effort were spent on the project.

Register-eligible Properties: 42Em3347
42Gr3530

Register-ineligible Properties: 42Em3346
42Em3348
42Gr3531
42Gr3532

Comments: We recommend a finding of "no effect" for the project.

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INTRODUCTION

This report was prepared by the Utah Division of Oil, Gas and Mining (DOGM) to provide evaluations of the historic values of 22 abandoned mine openings. The properties are all in the vicinity of the Bowknot Bend of the Green River, approximately 30 miles west of Moab Utah. The mines require significance evaluation as well as assessments of potential impacts from reclamation activities. Each is located on land under the jurisdiction of the Bureau of Land Management's (BLM) Price and Moab field offices. The study is being conducted in compliance with Section 106 of the National Historic Preservation Act of 1966.

PROJECT DESCRIPTION

The project area is located along the Green River in southeastern Utah in the area known as the Bowknot Bend of Labyrinth Canyon (Figure 1). Seventeen of the mine openings are located in five separate clusters on the main part of the bend. Another five openings are located at the mouth of Hey Joe Canyon, also on the Green River, but two miles to the northwest of the bend. The mines on the west side of the river are located within Emery County and are under the jurisdiction of the BLM's Price Field Office; those on the east bank are within Grand County and under the jurisdiction of the BLM's Moab Field Office. Surveyed portions occur in sections 9, 10, 25, and 36, T25S, R17.5E, and sections 23 and 25, T25S, R17E. The surveyed portions are located on the Tenmile Point, Bowknot Bend, and Mineral Canyon USGS 7.5-minute topographic quadrangles.

The project area is located within the Green River Desert subdivision of the Colorado Plateau Physiographic region (Stokes 1977) with the average elevation being 3500 feet asl. A wide range of sandstone formations are exposed in the canyon along the Green River and one of these, the Moss Back member of the Chinle Formation, has been associated with uranium and vanadium ores (UGS 1973). Although most of the project area is barren sandstone or mostly barren sandstone talus and mine spoil dumps, communities of blackbrush, low sagebrush and rabbitbrush are present (Figure 2). Areas adjacent to the river are dominated by a dense tamarisk and willow thicket.

Although Labyrinth Canyon is extremely isolated and has limited access, the area has become increasingly popular with recreationists, including river runners and ORV operators. Many of the mine workings are visible from the river and are an obvious attraction. For this reason, the Division of Oil, Gas and Mining has initiated a program of closing open mines that are considered hazardous, either from falls, roof collapse, or radiation exposure.

R17.5E R17E R17.5E R18E

T 25 S

R17E

42Gr3530

84-AS-0006

42Em3346

42Em3347

42Em3348

42Gr3531

42Gr3532

91-GB-231

82-UB-0206

POINT CANYON

SPRING CANYON

GREEN RIVER

BOWKNOT BEND

DEADMAN CANYON

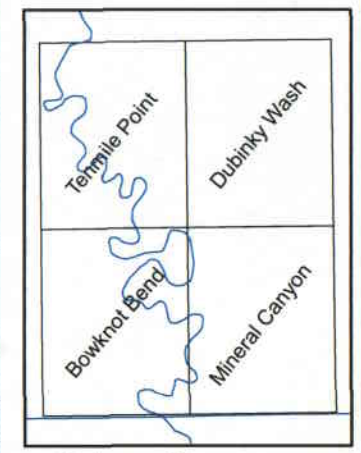
Labyrinth Canyon
Abandoned Mine
Reclamation
Project Area
AMR/015/913

Figure 1

Legend

- Previous Linear Survey
- Previous Block Survey
- Site Boundary

A note about township, range and section:
All sites are in Township 25 South.
On the Emery County side of the river it is Range 17 East.
On the Grand County side of the river it is Range 17.5 East.
Sections end at the river and restart in the new Range on the other side.



Background Image:
USGS 7.5' Quadrangles

Feet
0 625 1,250 2,500 3,750

1 inch equals 2,500 feet

N

Figure 2. Overview of the Bowknot Bend of Labyrinth Canyon. View to the north.

This cultural resource inventory involved three steps. First, each of the mines were inventoried, recorded and evaluated for significance; assessments of impacts were made of the proposed closings. Second, all other cultural resources in the vicinity of the mines were recorded and evaluated and assessed for possible indirect impacts. And third, mitigation measures were recommended to avoid or minimize impacts to significant resources.

Everett Bassett served as principal investigator and was assisted in the survey by Ken Wyatt and Anthony Gallegos of the Abandoned Mine Reclamation Program. The survey was conducted between September 14 and 17, 2004, with the mines being accessed by boat. A total of four person-days of effort were spent on the survey.

CULTURE HISTORY

National Park Service guidelines (1982) suggest that sites must be considered relative to some context that allows us to understand how unique or important they are. A formal state or regional historic context has yet to be developed for the types of sites encountered here. However, other state or regional contexts have been written so as to more effectively evaluate western mining sites. These include Barker and Huston (1990), Francaviglia (1991), Hardesty (1990), Keane and Rogge (1992),

Noble and Spude (1992), and the South Dakota State Historical Society (1987). None has been developed that address uranium mining sites.

Prehistory

The region that includes the project area contains no clear-cut evidence of Paleo-Indian (c. 11,000-8000 BC) presence. However, Paleo-Indian points have been found in the San Rafael Swell area and near Circle Cliffs, west of the project area. These probably represent nomadic groups hunting large animals and collecting plant foods.

The later Archaic occupation began in this region sometime around 7500 BC with the extinction of the megafauna, and lasting until the first millennium AD. Archaic peoples followed a seasonal round of hunting and gathering, utilizing a wide range of plants and smaller animals than previously. These sites can often be differentiated from later ones by an absence of cultigens, pottery, and small arrow points (Wormington 1957). Numerous Archaic sites have been identified in this part of Utah.

By the first millennium AD Formative groups were present in Utah. The Formative is identified by intensive maize agriculture, ceramics, and greater sedentism, often involving permanent or semi-permanent housing. The project area is unique in that it is near areas of both San Rafael Fremont and Kayenta Anasazi occupations. The Coombs Site in Boulder, Utah includes aspects of both traditions. While the bottomlands of the Green River within Labyrinth Canyon would have allowed maize agriculture, no Formative period sites have been identified in the vicinity of the project area.

By 1300 Numic-speaking Shoshonean peoples entered the project area. These groups followed a lifeway more similar to the Archaic than the immediately preceding Formative groups. Numic sites can be identified by Desert Side-notched projectile points and Numic ceramics. The descendants of these groups, the Southern Paiute and the Sabuagana Ute, utilized this part of Utah at contact.

Due to the isolation of the project area, the severe topography of the canyon walls, and the dynamics of the periodically flooded river bottom, it is unlikely that many prehistoric or protohistoric deposits remain within the confines of Labyrinth Canyon.

History

The first Europeans to explore the lower Green River were the Spanish, with the first of these being Juan Maria Antonio de Rivera in 1765. American and French-Canadian fur trappers began exploring the upper Green in the early 1800s. In 1825 Ashley floated the Green to the Uinta Basin and in 1836 Denis Julien floated through the project area, carving his name on the rocks at several locations. During the 1830s and 1840s the "Spanish Trail" that connected Santa Fe and Los Angeles ran to the east of the project area. In 1869 and again in 1871 John Wesley Powell's expedition floated the Green River on their way to study the Grand Canyon (Webb 1986).

Two historic settlements are located in the vicinity of the project area. Moab, to the east, was briefly settled by Mormons in 1855 and again, permanently, in 1878. The town of Green River, to the north, was established as a ferry crossing of the river in the 1870s. Green River took on added importance with the arrival of the Denver and Rio Grand Western Railroad in 1883 (Webb 1986).

Due to the severe topography of the landscape and the general lack of water, there was little additional settlement in the region. Widespread ranches developed around the few water sources and, beginning in the 1890s, the various 'bottoms' or flood deposits within Labyrinth Canyon began to be used by cattle operations. Exploration for oil and gas has also been carried out in this region, originally during the late 1920s and again beginning in the early 1950s and continuing to the present. After World War II Labyrinth Canyon became popular with river runners (Webb 1986). However, the most relevant aspect of the history of the project area was the development of uranium mining. The history of uranium mining on the Colorado Plateau has been documented by Coffin (1921, 1954); Moore (1923); Fischer (1942); the Utah Geological Society (1954); Hawley and Brooks (1965); Cohenour (1967); Taylor and Taylor (1970); Ringholz (1989); the Uranium Institute (1989); Shumway (2001, 2002); and Bennett (2002); and is summarized here.

The first use of uranium ores from eastern Utah appears to have been by Native Americans who used the bright yellow and red ores as pigment. From 1871 to 1905, two types of uranium ore were produced in small volumes for the world market. The Front Range of Colorado had pitchblende and the Colorado Plateau provided carnotite ore. At this time uranium ores were mainly used in glass and ceramic production, as dyes, and for chemical reagents. Pitchblende, containing uranium, was first identified in the United States at mines in Gilpin County, near Denver, Colorado. Carnotite, a bright yellow ore that contains both vanadium and uranium, was first identified in 1881 in the Rock

Creek area of the Uravan mining district of Montrose County, Colorado; carnotite was identified in eastern Utah in 1898 (Coffin 1921, 1954; The Uranium Institute 1988). Mining methods during this period were entirely manual, with the output being hand-sorted and transported on burros or donkeys to railheads. Originally, the ores were shipped to Europe for processing but by the early 1900s small plants had been built in this country (The Uranium Institute 1988).

Following a quiet period of about ten years after 1905, interest in mining uranium ore for radium recovery increased. This was partially spurred by the Curies' work in France as well as some American doctors who foresaw the value of radiation therapy and founded the National Radiation Institute. This, coupled with improved metallurgical research sponsored by the US Bureau of Mines from 1912 on, led to a significant expansion throughout the Colorado Plateau (Cohenour 1967). The United States, especially the Standard Chemical Company of Pittsburgh, dominated the world radium market from 1911 until 1924. In that year high-grade ore from the Belgium Congo (Zaire), first mined in 1921, hit the market. Whereas American ores contained 1-3 percent uranium oxide, these new ores contained amounts as high as 60 percent. During the 'radium' period that ran between 1905 and 1928, mining was carried out in the Thompson, San Rafael and Henry Mountains and 250 grams of radium were produced. Extensive prospecting took place during World War I when Austrian ores became unavailable (Coffin 1954).

During the 1930s US miners turned to what was previously considered a contaminate in the ore – vanadium. Colorado Plateau ores previously mined for uranium contained 10 to 20 times as much vanadium and the world steel-making industry began to use more of this each year as a hardening additive. Output was increased in 1936 when the US Vanadium Corporation built a mill at Uravan, Colorado and again in 1942 when the government-controlled Metals Reserve Company raised the price and began an ore-purchasing program. The Geological Survey and the Bureau of Mines bulldozed many miles of road and began an extensive drilling program during this period that presaged the later uranium boom. Vanadium was especially important for making light, hard steel armor for warplanes. It was the now 'worthless' uranium that was being dumped at the mill sites. However, with the end of the war in sight, the price of vanadium slumped in 1944 (Fischer 1942; Moore 1954).

During the vanadium period of 1925 to 1945, underground miners equipped with heavy equipment blasted and shoveled vanadium/uranium ore from the Morrison Formation mines where most

vanadium and uranium ores had been located up to that point. Instead of donkeys, diesel engined trucks carried the ore to regional extraction mills, from where the purified concentrates were shipped to world markets. Colorado increased its share of world production of vanadium to 45 percent. Extensive mining was also carried out in eastern Utah, especially in the Henry Mountains (Fischer 1942).

The United States committed itself to an atomic program towards the end of the Second World War. The uranium used to make the first weapons came from stockpiled African ore. However, in the early 1940s the US government was also quietly processing uranium ore from old vanadium mine dumps. After the Atomic Energy Commission (AEC) was formed in 1946, aggressive buying programs were instituted to develop a US uranium reserve base and production capability. In 1951 the AEC raised its base price for ore and introduced the added incentive of an initial production bonus. Exploration programs were set up by the AEC and by the Geological Survey, which acted as their agent. With the shift from vanadium to uranium, some districts poor in uranium, especially those in Colorado, did not share in the general upturn in market conditions (Cohenour 1967; UGS 1954).

By 1952 government incentives stimulated an explosion of prospecting and small mine development that would last through the late 1950s. Incentives included guaranteed ore prices, haulage and mine development allowances, a production bonus for the first 10,000 lbs. of U_3O_8 (uranium oxide) produced, a grade premium allowance, and fringe area allowances. In addition, a monthly report was produced suggesting likely areas for successful prospecting (Taylor and Taylor 1970). A definite turning point came with the 1952 discovery by Charlie Steen of the now famous Mi Vida mine from a non-Morrison formation lode in the hitherto disregarded Lisbon Valley area (Ringholz 1989). This fired the imagination of people throughout the country and showed that the individual prospector could succeed, even in competition with federal agencies. But more importantly, it indicated that truly large deposits, in marked contrast to the small 'pods' of the Morrison formation, could be found.

Uranium prospecting activity, which had reached a moderate level following the inception of the AEC's buying program, increased greatly in the years after the discovery of the Lisbon Valley deposits. In the mid-1950s prospecting reached its highest pitch, a veritable uranium rush. Unlike earlier prospectors, the uranium prospector was generally well supported. Instead of just a few

grubstakers, many prospectors now had multiple investors to participate in the risks. As a result, a huge 'get-rich-quick' boom was initiated. 'Penny' uranium stocks appeared, and on a local level the industry achieved criticality, resulting in the fission of vast tracks into an ever-increasing number of mining claims. For example, penny stocks from the vicinity of Temple Mountain rose from $.03 to $.20 and Lisbon (Mi Vida) from $.20 to $7.00 (Taylor and Taylor 1979; Ringholz 1989). For several years there was a rash of exploratory drilling and some fairly significant additions to Utah's uranium reserves. Furthermore, much negative drilling work was accomplished, which showed the unfavorability of some tracts once thought to be of high potential.

Government expenditure on exploration and development, refining, and purchase of uranium in the Colorado Plateau constituted a large fraction of the total AEC budget. The AEC had about 15 field parties operating in the area, which had at their disposal about 200 vehicles, 150 house trailers, and 22 tracked vehicles, not to mention dump trucks, water trucks, compressors, and road graders. The Geological Survey was similarly equipped but had fewer field teams. During 1953 the two agencies each did about half a million feet of exploratory drilling. Private industry drilled more than two million feet during 1954, more than twice the combined total of the two government agencies, giving an overall total of more than three million feet in that year (Taylor and Taylor 1967; Ringholz 1989). All types of drilling were employed, including rotary, diamond, and percussion (Cohenour 1967). The huge numbers of roads bulldozed into previously inaccessible areas during this period remains an important aspect of the region's landscape (Webb 1986) and has recently created conflict between counties and federal agencies over wilderness issues.

The AEC also maintained 12 ore-buying stations on the Colorado Plateau. More than 500 mines were in simultaneous operation and production doubled every 18 months in the period after the AEC entered the market. The number of prospectors in the region may have been on the order of 2,000, and it is impossible to calculate the number of local people who indirectly benefited from the immense amount of activity in the area (Ringholz 1989). The population of Moab, at the center of the uranium area, increased from 1200 to about 4600 (Taylor and Taylor 1970).

The effects of this frenetic exploration on the Colorado Plateau spread far beyond the confines of the region. The most obvious evidence of the uranium rush was the multiplication in the number of uranium companies selling stock, not only in Utah, Colorado and New Mexico, but also on a nationwide scale. This rivaled the gold and oil stock market booms of other periods. Concrete

evidence that uranium was big business is the fact that a score or more uranium millionaires made their fortunes on the Colorado Plateau during this period (Taylor and Taylor 1970).

However, in 1957, it all came crashing down, at least for the smaller operators. The AEC, feeling it had stockpiled enough ore, determined that ore from mines that were not then producing would no longer be accepted at their mills. Hundreds of smaller companies had operations ready to produce and were just awaiting sufficient investment. This essentially put an end to prospecting and mine development (probably including those within the project area), although the larger firms such as Kerr-McGee and Union Carbide continued to produce. This created charges of collusion by many of the smaller operators who felt they had been doing the government's footwork during the preceding years. In November 1962 the AEC issued an invitation to those companies which held uranium production contracts to defer U_3O_8 deliveries in exchange for additional contract commitments (Ringholz 1989).

The period of government involvement in uranium mining ran from 1945 to 1967. The industry multiplied manyfold during this time with the combination of government incentives and US entrepreneurial motivation. The government in addition to large amounts raised on the stock markets spent over $2.5 billion (Ringholz 1989). During this period thousands of prospectors, miners, millers, truckers, geologists, and investors poured into the Colorado Plateau region. Increased mine activity in the private sector resurged again in the 1970s to provide private and public utilities with nuclear fuel. However, just a few larger firms located at a limited number of mining locations captured this market.

The history of uranium mining in Labyrinth Canyon is not well documented, probably because there was little or no production from the mines there. The mines in this region are occasionally referred to by the Utah Geological Survey as being within the Interriver Mining District (UGS 1973). No development occurred here prior to the rush of 1952-1957. Given the small size of these mines and the limited period of their operation, it is likely that they date only to within the period 1953-1957, although some of the larger mines may have seen maintenance activities or even limited mining operations into the early 1960s. During the summer of 1954 a GLO surveyor noted that the road down Spring Canyon had already been bladed and that "considerable activity in prospecting for uranium was being carried on along these canyons" (GLO 1954). A Utah Geological Survey inventory of the Hey Joe mine (UGS 1973) indicates it was located by Bill Bronson and that 10,141

lbs. of uranium and 13,093 lbs. of vanadium had been removed and that at least 2000 tons of ore remained. William Bronson was a long-time rancher in the Green River area.

Getting equipment down into Labyrinth Canyon and across the river would have been difficult. The road down Spring Canyon to the Green River was likely constructed to access the mining prospects. Several industrial cable ferries operated across the river. The one at Bowknot Bend is still represented by a one-inch cable stretched across the river. At one crossing south of the bend, a ferry overturned dropping a bulldozer into the river (Webb 1986).

RECORDS REVIEW

A review was undertaken to determine the extent of prior survey in and near the study area to identify previously recorded cultural resources. Records were reviewed at the Utah Division of State History and through historic General Land Office maps and plats. Only three surveys have been conducted within one mile of any of the mines (see map, Figure 1). These are: 1) Cultural Resources Inventory of Sefel Geophysical, Ltd. Spring Canyon Prospect Seismographic Links SC-84-12 and SC-84-13 (84-A5-006); 2) Cultural Resources Inventory Report of the Proposed Knoll Detail Block Survey, Grand County, Utah (91-GB-231); and 3) Archaeological Reconnaissance of 60 Miles of Seismic Exploration in and around Dead Horse State Park, Grand County, Utah (82-UB-0206). None of the surveys are at the location of any of the mines and no cultural resources were identified within one mile of the project area. The only historic maps of the regions, the 1954 GLO maps of T25S, R17W and T25S, R18W, only show the new road down Spring Canyon and roads across the mesa tops.

FIELD SURVEY METHODS

A one-person field crew inspected the ground surface in the vicinity of each mine opening by walking 10-meter transects to cover at least a 300 foot radius around each opening. Where additional cultural remains were identified, the survey area was expanded. Where dispersed mines or other features were combined to form a single site, all areas within the site boundary as well as a 300-foot buffer around the site were surveyed. Field notes and photographs were taken and a global positioning system (GPS) was used for mapping. Surface visibility was excellent in all areas except immediately adjacent to the river where it was obscured by tamarisk and willow thickets. Where identified mine openings were within several hundred feet of other openings, were connected by common access roads, or were known to have been located on the same claim, they were combined as a single archaeological site. Sites were photographed, mapped, and recorded on Intermountain Antiquities Computer System site forms. In addition, DOGM mine inventory forms for each of the 22 openings were recorded and are on file at DOGM's Abandoned Mine Reclamation Program office.

FIELD SURVEY RESULTS

The 22 mine openings and associated cultural remains were combined and recorded as six archaeological sites (Figure 1). No prehistoric, protohistoric, or non-mining related historic artifacts or features were identified. Each of the six archaeological sites, along with NRHP-eligibility

recommendations and mitigation measures, where necessary, are discussed below. The IMACS forms for each site, including photographs, site sketches, and location maps are included as Appendix I.

42Em3346

Bowknot Bend and Aileen Mine Groups

42Em3346 consists of two clusters of mining features located on the canyon wall on the northwest side of the Bowknot Bend of the Green River (Figure 3). On the north end is a single adit, a chute, and two areas of trash dispersal. This is known as the Bowknot Bend mine. At the south end of the site are the four adits that make up the Aileen mine group. An access road connects the mines.

Feature 1 (4251723HO1) is a mine adit measuring six and one-half feet wide by seven feet high and with an associated dump. A large load-out facility (Feature 2) is also adjacent to the adit. The interior is unsupported and extends for approximately 80 feet into friable sandstone. The adjacent dump measures 40 feet across, is 50 feet high and contains approximately 375 cubic yards of fill. In the vicinity of the mine are numerous scraps of dimensional lumber, tarpaper, pipes, wire rope, and a hand-made ladder. A road accesses the feature between the adit and the dump.

On the level mesa top north of Feature 1 is a dispersed scatter of trash and equipment that includes scraps of cut metal, fragments of dimensional lumber, and the rear axle assemblage from a compressor truck. Portions of a 1.5" pipeline for compressed air crosses the mesa top. Test drilling had been conducted at various locations across the top of the mesa into the area behind the adit. However, given the nature of the terrain it is not clear how the equipment was transported to or removed from the mesa top.

Feature 2 is an ore chute that transported ore from near the portal of Feature 1 50 feet to the flats at the base of the mesa. The outer frame of the chute is constructed from 8" by 8" beams that form horizontal and vertical supports, 6" by 8" beams that form horizontal and diagonal supports, and some 4" by 4" beams providing supplementary vertical support. On the interior, the floor of the chute is lined with 3" by 12" planks and the walls are formed of 3" by 12" planks on the lower two feet and 2" by 12" planks on the upper part. The downhill portion of the chute is supported by four sets of vertical supports placed five feet apart. The portion of the chute at the bottom of the hill

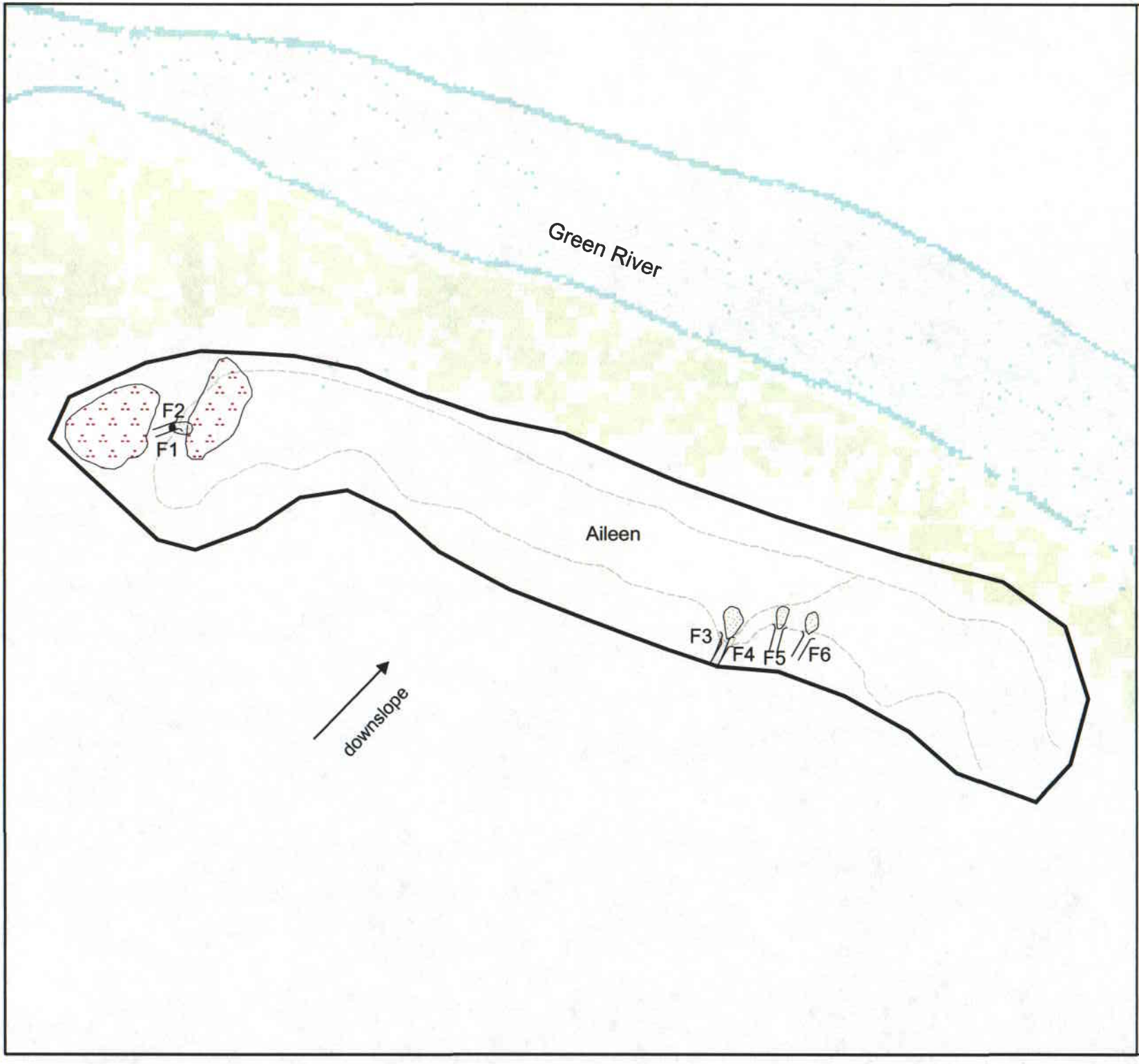


Figure 3

42Em3346

Aileen & Bowknot Bend
Mine Properties
Labyrinth Canyon Project
AMR/015/913

Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

0 50 100 200 300 Feet

1 inch equals 300 feet

N

forms an A-frame 18 feet across at the bottom and 6 feet across at the top. The opening at the bottom of the chute measures four feet wide by two feet high and has grooved sides to accommodate a sliding door, now missing. The chute is in good condition.

At the base of the hill below the ore chute is a large, disperse trash scatter. This includes many fragments of dimensional lumber, 12" by 12" beams, poles, barrels, segments of ¾" pipe, oil cans, and a galvanized bucket.

Feature 3 (4251723HO2) is a mine adit measuring six feet wide by four and one-half feet high. The mine is located within a cul-de-sac of the canyon wall near to Feature 4. The interior is unsupported and extends for approximately 100 feet into highly fractured, jointed sandstone. There is no associated dump. A road accesses the feature.

Feature 4 (4251723HO3) is a mine adit measuring six feet wide by four and one-half feet high and with an associated dump. The mine is located within a cul-de-sac of the canyon wall near to Feature 3. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. The adjacent dump measures 15 feet across, is 25 feet high and contains less than 100 cubic yards of fill. A road accesses the feature between the adit and the dump.

Feature 5 (4251723HO4) is a mine adit measuring four feet wide by six and one-half feet high and with an associated dump. The interior is unsupported and extends for approximately 65 feet into highly fractured, jointed sandstone. The adjacent dump measures 30 feet across, is two feet thick and contains only a small amount of fill. A road accesses the feature between the adit and the dump.

Feature 6 (4251723HO5) is a mine adit measuring four feet wide by six feet high and with an associated dump. The interior is unsupported and extends for approximately 60 feet into highly fractured, jointed sandstone. The adjacent dump measures 60 feet across, is two feet thick and contains less than 20 cubic yards of fill. A road accesses the feature between the adit and the dump.

42Em3347

Willow Rose Mine Group

42Em3347 consists of four mine adits that make up the Willow Rose mine group (Figure 4). The adits are located on the steep canyon wall on the west side of the Bowknot Bend of the Green River.

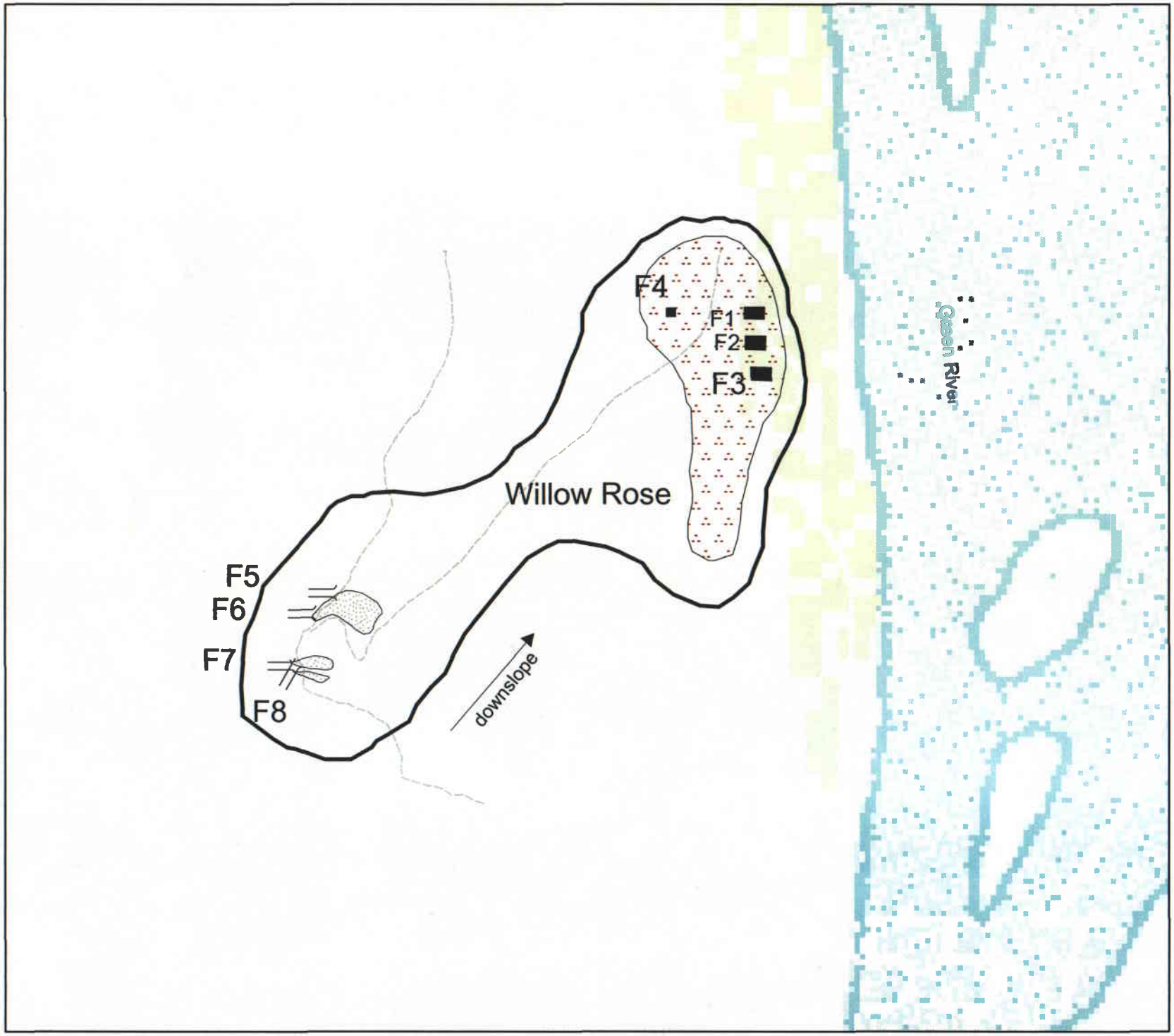


Figure 4

42Em3347

Willow Rose
Mine Property
Labyrinth Canyon Project
AMR/015/913

Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

Feet
0 100 200

1 inch equals 200 feet

N

An access road connects the mines. On the flood plain below the mines are two standing frame buildings, two building foundations, and a dispersed trash scatter spread across the flats.

Feature 1 is a still-standing frame building measuring 16.5 feet east-west by ten feet north-south. The walls are 6.5 feet high and the roof has a curved eight-inch peak formed by bending the roof joists over three spacers. The interior of the building is framed with 2" by 4"s and sheathed with 1" by 12" horizontal planks. These are covered on the exterior with green aggregate tar paper with vertical battens at the seams. There is no evidence of any interior walls or ceiling. The roof support is fabricated from variable-width ½-inch sheathing; these were probably covered with tar paper but none now remains. A stovepipe hole had been cut in the southwest corner of the roof. The floor of the building is unimproved dirt.

A two-foot high by four-foot wide framed window is located on the center of the north and south walls. A framed three-foot by six-foot doorway is located on the north end of the west side, although the door is now missing. Two screened but unframed openings had been cut into the walls at a later date to increase airflow. These are a two-foot wide by 1.25-foot high opening on the north side and a two-foot wide by 2.5-foot opening located on the east side. The interior also has several shelves attached to the frame and fabricated from wooden crates and slats. A tube of Mentholatum shaving cream remains on one of the shelves.

On the eastern exterior of the building is the floor of a porch measuring ten feet north-south by 12 feet east-west and is nine inches high. It is constructed of 2" by 4" framing with 1" by 12" flooring. A 2" by 4" box constructed on the west end of the north side may have held fuel wood. Twenty-five feet to the north of the building is half of a barrel, partially buried, and used as a trash incinerator. Approximately 20 sanitary cans and fragments of melted glass are present at the bottom the barrel. Artifacts in the vicinity of the building include a galvanized pail, a thermos, several 50-gallon barrels, and fragments of wooden crates and dimensional lumber. Feature 1 probably functioned as a residence or bunkhouse for the mineworkers.

Feature 2 appears to be the floor of a large tent house. The feature measures 12 feet east-west by 14 feet north-south and is formed of 2" by 8" joists spaced at four-foot intervals with the flooring comprised of ½" by 8" planks running north-south. At the center of the south side is a 2 foot-square wooden stoop. Surrounding the flooring are scraps of tent material, especially the folded hem and

grommets, as well as fragments of window screening. Other artifacts in the vicinity include tires, fragments of rubber and tar paper, and a barrel. Still sitting on the center of the flooring is a large dining table measuring two feet ten inches wide by 12 feet long. This feature was probably a dining tent for the mineworkers.

Feature 3 is a still-standing building, identical to Feature 1, but with the following exceptions: The exterior of the building is sheathed with horizontal 1" by 6"s covered with pieces of black and red aggregate tar paper; there are no battens over the seams. The building has a floor constructed of north-south oriented 1" by 6"s and the windows are located on the north and east walls only. The doorway is located on the south end of the east wall. There are no porches and the stovepipe hole is on the northeast corner of the roof.

This building was used as a storeroom for the rock cores from test drilling conducted in the vicinity of the mines. Several wooden tables are present on the interior and these are covered with decomposed corrugated paper boxes and many cores. There is evidence that more tables and some shelves had also been present but these have been removed. Artifacts on the exterior of the feature include scraps of dimensional lumber and pieces of cut steel plates.

Feature 4 is a partially rotted four-foot square frame of 2" by 4"s located at the base of a steep slope. This may be the remains of a privy, although no interior pit is visible.

There is a large scatter of trash around and to the west of Features 1 through 4. This trash includes numerous 50-gallon barrels including one heavily constructed barrel labeled "Property of Utah Oil Refining Company Salt Lake City Utah". Other artifacts include a 1940s-era truck door, generator, and headlight, a metal bed frame, two sets of leaf springs, a heavy steel rock probe, sanitary cans, fuel cans, scraps of dimensional lumber, and a rubber boot.

Feature 5 (4251725HO1) is a mine adit measuring six and one-half feet wide by ten feet high and with an associated dump. The interior is supported by both square sets and continuous box cribbing and extends for approximately 130 feet into highly fractured, jointed sandstone. The adjacent dump measures 80 feet across, is 15 feet high, and contains approximately 875 cubic yards of fill. Atop the dump are fragments of a rail trestle, scraps of corrugated roofing, and a drill bit; no rails remain. A road accesses the feature between the adit and the dump.

Feature 6 (4251725HO2) is a mine adit measuring nine and one-half feet wide by five feet high. The interior is partially supported by wood props and extends for approximately 20 feet into highly fractured, jointed sandstone where it splits and extends for an unknown distance to both the right and to the left. It is likely that it joins with Feature 5. The adjacent dump is quite dispersed and contains less than 100 cubic yards of spoil. A road accesses the feature between the adit and the dump. Remnants of a small rail trestle are present adjacent to this road.

Feature 7 (4251725HO3) is a mine adit measuring nine feet wide by nine feet high. The interior is unsupported and extends at a bearing of 270° for an unknown distance into highly fractured, jointed sandstone. The adjacent dump is 20 feet wide, 100 feet long, and contains approximately 630 cubic yards of spoil. A road accesses the feature between the adit and the dump. Remnants of a small rail trestle and scraps of dimensional lumber are present adjacent to dump.

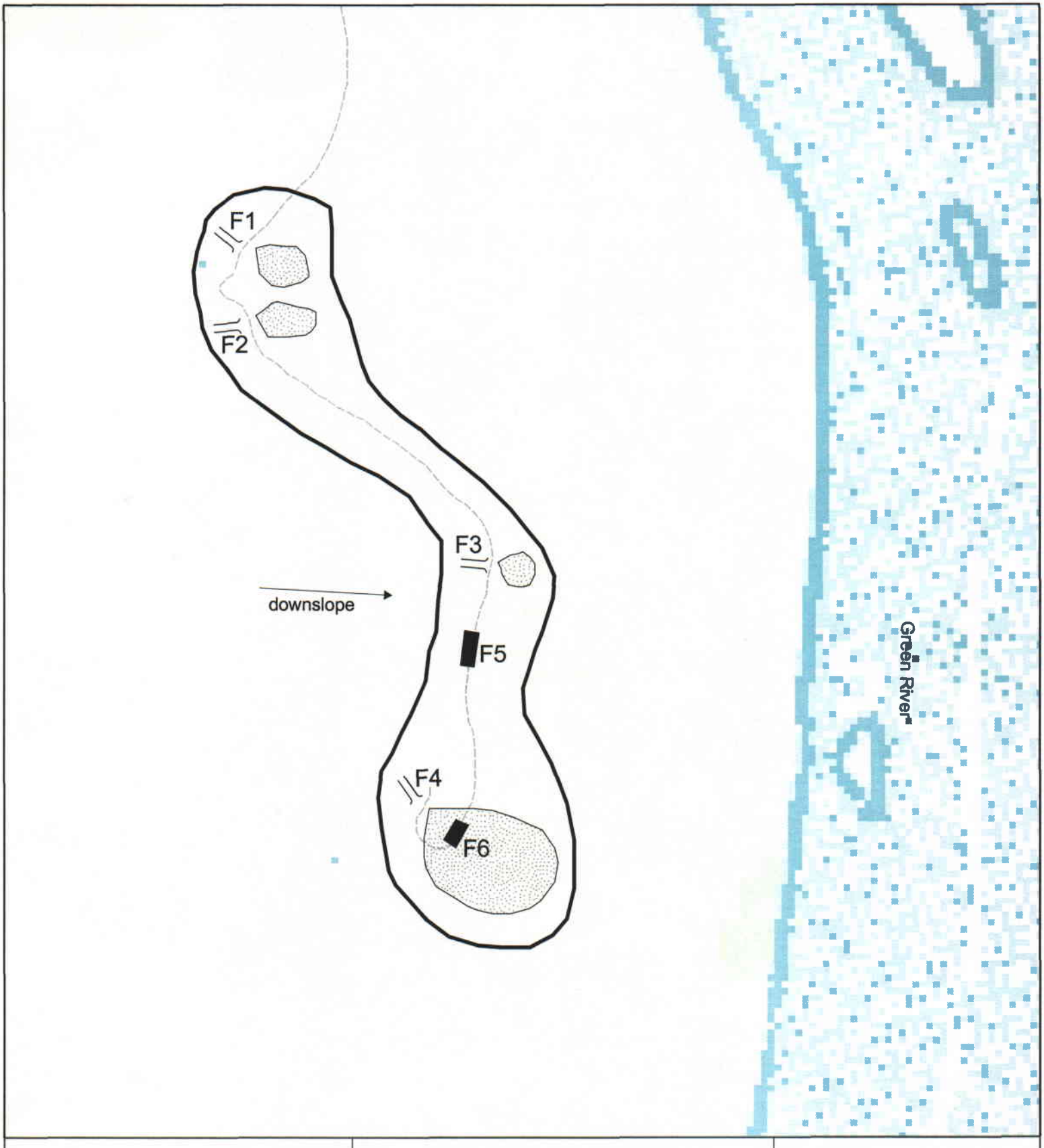
Feature 8 (4251725HO10) is a mine adit measuring six feet wide by four feet high. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. The adjacent dump measures 20 feet across and is 80 feet long; downhill from the spoil pile is a dislodged square frame formed of 4" by 4"s, possibly a portion of a small load-out facility. A road accesses the feature between the adit and the dump.

42Em3348

Denise Mine Group

42Em3348 consists of four mine adits that constitute the Denise Mine property, as well as three pieces of abandoned mining equipment (Figure 5). These are located on the steep canyon wall on the west side of the Bowknot Bend of the Green River. An access road connects the mines.

Feature 1 (4251725HO4) is a mine adit measuring eight feet wide by nine and one-half feet high and with an associated dump. The interior is unsupported and extends for approximately 30 feet into highly fractured, jointed sandstone. The interior of the adit is partially collapsed. The adjacent dump measures 10 feet across, is three feet thick and contains less than 20 cubic yards of fill. A road accesses the feature between the adit and the dump.



N

Feet
0 25 50 100 150

1 inch equals 150 feet

Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

Figure 5

42Em3348

Denise
Mine Property
Labyrinth Canyon Project
AMR/015/913

Feature 2 (4251725HO5) is a mine adit measuring seven feet wide by six feet high. There is no associated dump. The interior is unsupported and extends for approximately 70 feet into highly fractured, jointed sandstone. A 2" by 4" post with an unreadable signboard has been posted on the interior. A road accesses the feature between the adit and the dump.

Feature 3 (4251725HO6) is a mine adit measuring eight feet wide by seven feet high. There is no associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. A road accesses the feature.

Feature 4 (4251725HO7) is a mine adit measuring nine and one-half feet wide by six feet high. There is no associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. Downhill from the adit are a mine ventilation fan and several pieces of dimensional lumber. A road accesses the feature.

Artifacts scattered along the access road and in the vicinity of the adits include pieces of fuse cord, compressor hose, and scraps of dimensional lumber.

Feature 5 consists of two pieces of abandoned equipment located on the access road adjacent to Feature 3. One is a one and one-half ton truck with a 500-gallon tank. This appears to be a surplus WW II-era Willeys truck with the front axle assemblage removed. The Butane Tank Corporation of Los Angeles produced the tank in 1952. The other piece of equipment is a one-ton truck with a compressor. The truck has had its top cut off and a towing apparatus welded to the front. The Young Radiator Company produced the compressor in 1953.

Feature 6 consists of a small tractor sitting on the access road adjacent to Feature 4. The tractor is a Case Terratrack 600, Terramatic diesel front-end loader.

42Gr3530

Hey Joe Mine Group

42Gr3530 consists of five mine adits and nine other cultural features along the bottom of Hey Joe Canyon (Figure 6). Together, these constitute the Hey Joe Mine properties that were located by Bill Bronson in 1953 and worked through the late 1950s and possibly into the early 1960s. Marketable ore was produced from this operation. The non-mine features include four building foundations, two

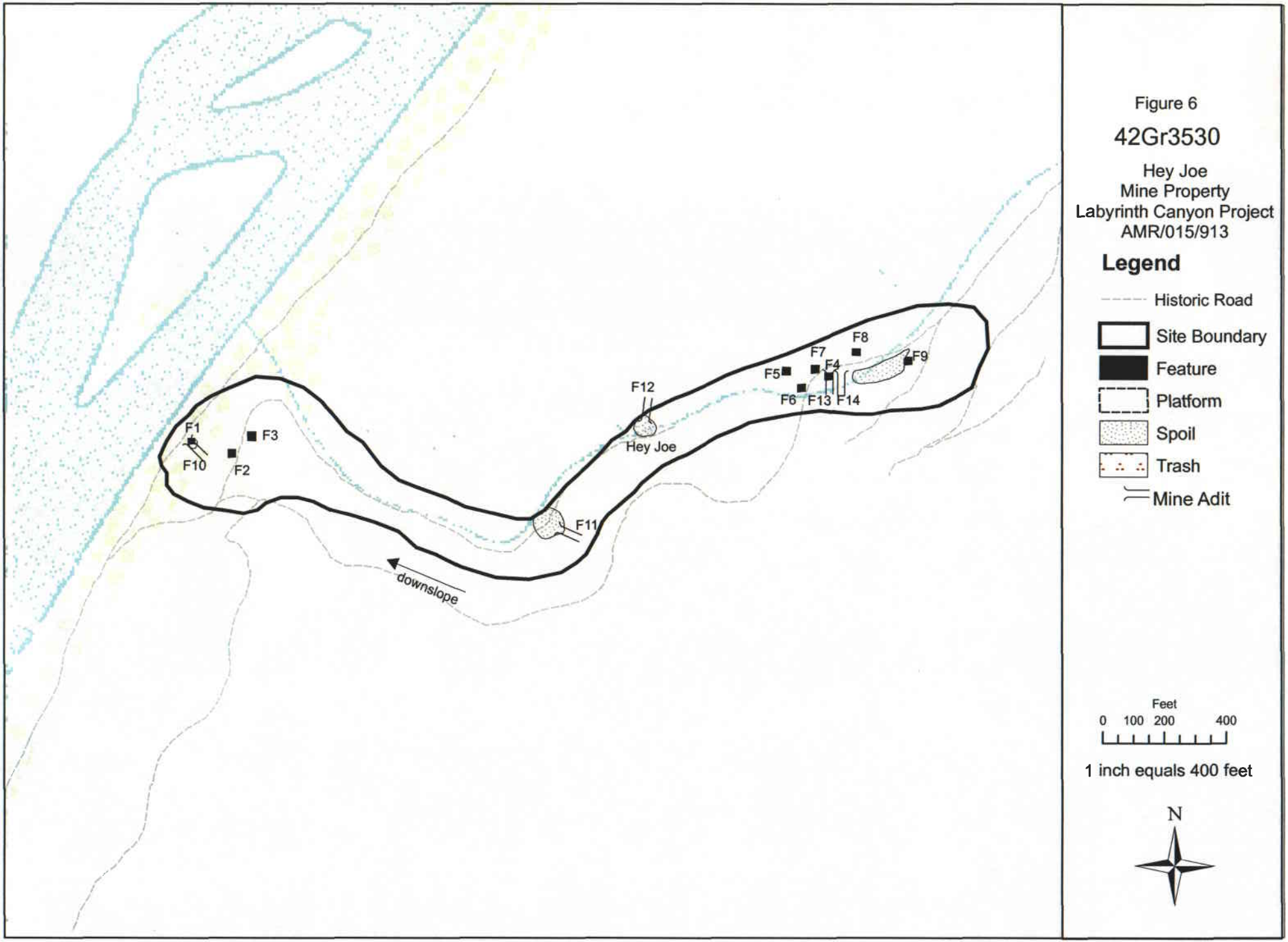


Figure 6

42Gr3530

Hey Joe
Mine Property
Labyrinth Canyon Project
AMR/015/913

Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

Feet
0 100 200 400

1 inch equals 400 feet

N

dumps, an ore hopper, and three pieces of mining equipment. A network of roads connects the features and provided access to boring locations in the vicinity of the canyon.

Feature 1 is a load-out facility located adjacent to a road and on the edge of the Green River floodplain. The sheet steel hopper appears to have been manufactured although no nameplate was found. It measures ten feet square and is eight feet high. A nine-foot high superstructure fabricated from segments of six inch and two inch angle iron supports the hopper. A set of narrow gauge mine rails runs to the top of the hopper, being mostly supported by an adjacent spoil pile that is approximately 40 feet in diameter and 18 feet high. The downhill (road) side of the spoil pile is retained by 2" by 12" planks held in place by poles, 3" by 6" beams, wire rope, and the support for the hopper. At the top of the hopper, segments of rail and pipe have been crudely welded to provide additional support and a four-foot high railing. The hopper was partially held in place by two segments of one-inch wire rope that connected the hopper to the sandstone ridge to the east and was held in place by embedded drill bits. One section of wire rope still supports the hopper; the other has been severed. This feature is located in an area of thick floodplain vegetation comprised of tamarisk and willow. Artifacts or other features may be located in this vicinity but are not currently visible.

Feature 2 is an abandoned bulldozer located 125 feet to the southwest of Feature 3. This is an Allis Chalmers D14 Diesel equipped with a large winch produced by the Pacific Car & Foundry Company of Renton Washington. One of the track treads had been badly damaged.

Feature 3 is a poured concrete foundation footing measuring 16.5 feet north-south by 12 feet east-west. The footing is eight inches wide and is elevated between one and six inches above the ground surface. At four-foot intervals, ½ inch bolts protrude from the footing. Curiously, there is almost no evidence of a superstructure. It is possible one was never built or that it was salvaged whole. Just to the south is a 12-foot diameter depression with approximately 20 bayonet-opened sanitary cans on the inside. Other artifacts in the vicinity include more sanitary cans, aluminum sardine cans, and clear glass fragments. A metal bed frame and a Serval gas refrigerator identical to the one identified at feature 6 are also present. This type of refrigerator was produced between the early 1950s and 1965.

Feature 4 is an abandoned portable compressor and a pickup truck located adjacent to the mine adits (Features 13 and 14). The portable compressor, which was produced by Caterpillar, has a 5-¾ inch

bore straight-6 engine, measures four feet across, 14 feet long, and has iron wheels. The tongue and rear truck had been removed and are lying in a wash 20 feet to the east. Sullivan produced the attached compressor. The flatbed pickup truck, possibly a late 1940s-era Dodge, is located in a wash and has been partially filled with sand and gravel from periodic flood episodes.

Feature 5 is a wood frame privy located adjacent to several large boulders. The privy measures four feet square and, based on the few standing frame components, stood 6.5 feet high. The walls have been mostly knocked down but seem to have been of similar construction to Feature 7, being fabricated from 1" by 10" flooring, 2" by 4" joists and framing, and 1" by 5" tongue-and-groove sheathing. The interior had been lined with corrugated cardboard; no evidence of the roof remains. The privy's seat is crudely formed of 2" by 4"s laid at an angle to provide a triangular-shaped opening.

Feature 6 is a 20-foot diameter push pile of debris and is located 40 feet to the southwest of Feature 7. Most of the debris appears to be portions of the superstructure from Feature 7 and includes 2" by 4"s, 1" by 10"s, and segments of frame walls fabricated from ½" by 5" tongue and groove boards. Other debris includes Alco fiber wallboard, fragments of tar paper, window screening, wire nails, a Formica-topped kitchen counter, a set of bed springs, auto or truck parts, and barrels. There is also a Serval gas refrigerator produced by Serval Inc. of Evanston, Indiana.

Feature 7 is a foundation for a wood frame building that measured 14 feet east-west by 12 feet north-south. The foundation is located adjacent to a large natural cliff face of sandstone and rests on a leveled platform that measures 20 feet square and has retention walls made of segments of eight-inch-square beams, rocks, and barrel halves held in place with metal stakes. The floor of the building is mostly intact and is fabricated from ½ " by 10" boards laid on a 2" by 4" frame. Portions of the roof and walls are nearby but are too fragmented to provide any dimensions. Numerous wire nails and fragments of green aggregate tar paper are also present. Artifacts in the vicinity of the feature include fragments of broken white ware plates, barrels and barrel fragments, segments of ½" and ¾" wire rope, wire, glass Mason jar lids, fragments of clear glass, fragments of dimensional lumber, galvanized metal roofing material, and portions of window frames with screens (although no pane glass). An evaporative cooler and a Welbilt gas stove are also present. This feature appears to be the location of a mining residence or small bunkhouse.

Feature 8 is a concrete machine mount located on a slab of exposed sandstone bedrock. The slab is fairly crude and measures six feet east-west by 2.25 feet north-south. The slab is nine inches high on its east side and three inches high on the west. The slab has been attached to its rock foundation by sections of rebar pounded into the rock. Four ¾" threaded screws extend up three inches from the slab to form a rectangle measuring five feet east-west by one foot north-south.

Surrounding the slab, but also embedded into the sandstone bedrock, are the metal supports for what was probably a wood frame superstructure measuring nine feet east-west by six feet north-south. These supports are formed of vertical segments of two-inch pipe with crudely arc-cut 4" by 5" flanges formed of ¼-inch steel plate. Nearby on the ground is a section of a 6' by 9' frame wall fabricated from 2" by 4"s. Artifacts in the vicinity include sanitary cans, an enamel washing machine, and a truck tire. It is unlikely that these artifacts are associated with the feature, which is probably a support for a diesel-powered generator. A nearby pole may have supported a distribution line.

Feature 9 is a small secondary trash deposit near the east end of the site on the edge of the mine dump. This location suggests the trash was deposited near the end of the site's active mining period. The trash dump measures approximately 20 feet east-west by 30 feet north-south and is comprised of approximately 200 items. These include cut-up 50-gallon barrels, rubber hoses, fragments of sheet metal, chicken wire, fragments of dimensional lumber, window screen fragments, pane glass fragments, dry cell battery cores, lengths of ½-inch wire, fan belts, truck and automotive parts, and many fragments of clear and blue bottle glass. One bottle base has a 1962 Owens-Illinois mark. Many cans are also present. Approximately 70 are bayonet-opened #5 sanitary cans. Others are 12 aluminum Coors beer cans, eight 2-7/8" by 3-7/8" evaporated milk cans that date from between 1950 and the present, two one-gallon fuel cans, and three tobacco cans. The feature appears to have been the result of clean-up efforts from elsewhere on the site.

Feature 10 (4256709HO1) is a mine adit measuring seven feet wide by five feet high with an associated dump. The interior of the adit is fully box cribbed and extends for an unknown distance into jointed sandstone. The portal is formed from posts and 2" by 10"s. The dump, which is located 40 feet to the west of the mine adit on the floodplain of the Green River, measures 50 feet across, is 15 feet high and contains approximately 1400 cubic yards of fill. A set of mine rails connects the interior of the mine to the dump and adjacent load-out facility (Feature 1). The road that descends

Spring Canyon and follows the Green River accesses the feature on the river (west) side of the dump and below the load-out facility. This area is now partially covered by a tamarisk and willow thicket.

Feature 11 (4256710HO1) is a mine adit measuring nine feet wide by nine and one-half feet high with an associated dump. Both are located on the south side of Hey Joe Canyon. The interior is unsupported and extends for an unknown distance into fractured, jointed sandstone; the mine is flooded from a point 60 feet from the portal. The adjacent dump measures 90 feet across, is 35 feet high and contains approximately 300 cubic yards of fill. A road accesses the feature.

Feature 12 (4256710HO2) is a mine adit measuring nine feet wide by nine feet high with an associated dump. Both are located on the north side of Hey Joe Canyon. The interior is unsupported and extends for 50 feet into the purple shale of the Moss Back member of the Chinle formation. The adit slopes down at 15° on a 9° bearing. The adjacent dump measures 25 feet across, is two to three feet high, and contains approximately 25 cubic yards of fill. A road accesses the feature.

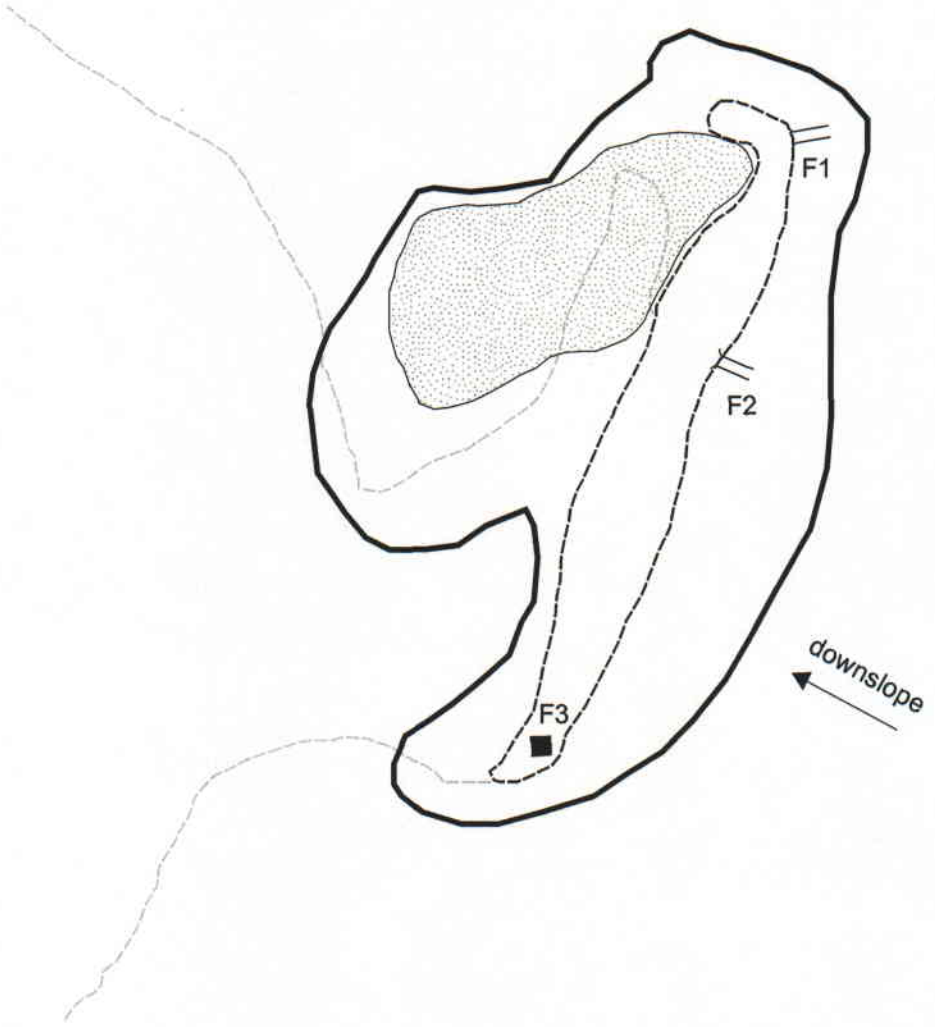
Feature 13 (4256710HO3) is a mine adit measuring seven feet wide by nine and one-half feet high but with no associated dump. The mine is located on the south side of Hey Joe Canyon and appears to connect on the interior with Feature 14. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. A road accesses the feature.

Feature 14 (4256710HO4) is a mine adit measuring seven feet wide by six feet high and with an associated dump. The mine is located on the south side of Hey Joe Canyon and appears to connect on the interior with Feature 13. The interior is unsupported and extends for at least 15 feet into highly fractured, jointed sandstone. A dump, which probably also received spoil from Feature 13, is located approximately 150 feet to the east of the adit. The dump measures 200 feet across, is ten feet high, and contains approximately 500-800 cubic yards of fill. A road accesses the feature.

42Gr3531

Cottonwood Mine Group

This site is the location of the Cottonwood uranium mine and is located on the steep canyon wall on the east side of the Bowknot Bend of the Green River (Figure 7). 42Gr3531 consists of two mine adits with associated dumps and a portable compressor. To the west of these features and to the east of the dump, a roadway had been bladed to form a 50 by 350-foot platform.



N

Feet
0 25 50 100

1 inch equals 100 feet

Legend

Historic Road

Site Boundary

Feature

Platform

Spoil

Trash

Mine Adit

Figure 7

42Gr3531

Cottonwood
Mine Property
Labyrinth Canyon Project
AMR/015/913

Feature 1 (4256725HO8) is a mine adit measuring seven feet wide by eight feet high and with an associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. Just inside the portal the adit opens up into a large stoped area that was used on the north side as a tool room. Within the tool room are framed work benches, crates for explosives (Hercules Co.), tools, dimensional lumber, 50 gallon barrels, and oil cans. Just past this stoped area the adit splits, with one tunnel bearing 23° and the other bearing 120°. The dump has been drastically eroded by a wash that runs just to the south of the adit. Adjacent to this wash and partially embedded in the dump are pieces of debris, including 6" by 6" beams, tires, barrels, fragments of dimensional lumber, and segments of ¾" wire rope. The remains of the dump are large and contain more than 100 cubic yards of spoil. A road accesses the feature between the adit and the dump.

Feature 2 (4256725HO9) is a mine adit measuring eight and one-half feet wide by seven feet high and with an associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. The adjacent dump is difficult to measure because it has been heavily bulldozed to provide the road and platform in front of the adit. The dump contains in excess of 100 cubic yards of fill.

Feature 3 is a portable compressor that had been abandoned at the extreme southern end of the site. The vehicle, which has a Hercules Engine, had been sold by the Shaw Sales and Service Company of California. The vehicle supports a Chicago Pneumatic air compressor with a 7-4X5 Simplete Valve engine.

Artifacts on the site include pieces of fuse cord, rubber hoses, drill bits, 6' split retention bolts, segments of 18"-wide galvanized mine duct, many lengths of ¾" wire rope, blasting cap boxes, and fragments of dimensional lumber.

42Gr3532

Larry Mine Group

This site is the location of the Larry uranium mine and is located on the steep canyon wall on the east side of the Bowknot Bend of the Green River (Figure 8). 42Gr3532 consists of two mine adits, a portable structure, and a bulldozed platform that measures approximately 40 feet by 70 feet.

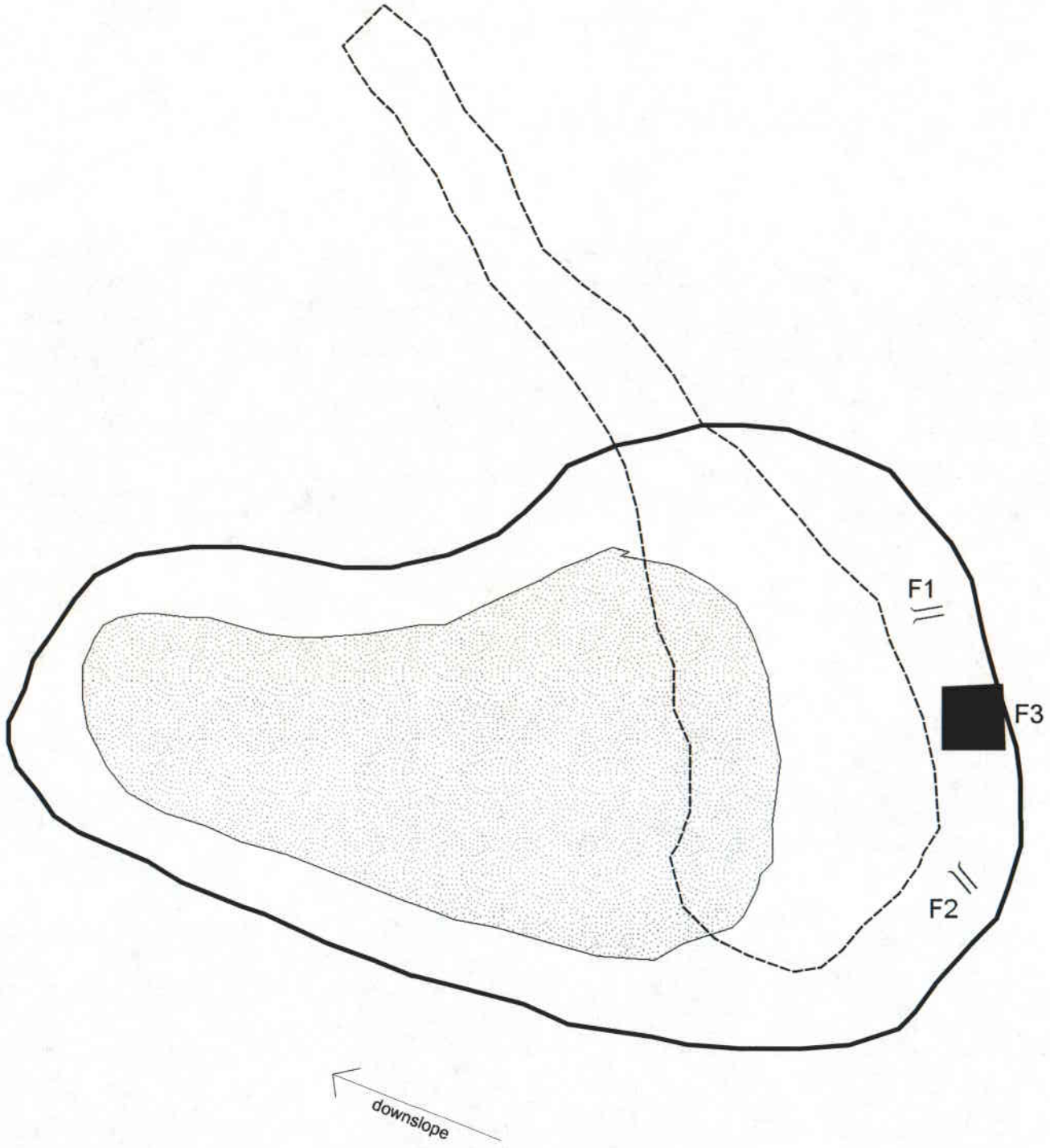


Figure 8

42Gr3532

Larry
Mine Property
Labyrinth Canyon Project
AMR/015/913

Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

0 5 10 20 30 Feet

1 inch equals 25 feet

N

Feature 1 (4256736HO1) is a mine adit measuring seven feet wide by seven feet high and with an associated dump. The interior is supported and extends for an unknown distance into highly fractured, jointed sandstone and shale. The cribbing is four feet wide by six feet high on 6" posts and caps. Three sets of square sets are present on seven-foot centers. Twenty feet inside the adit is a double pair of wooden doors fabricated from 2" by 10"s. The adjacent dump measures 60 feet across, is 60 feet high and contains approximately 840 cubic yards of fill. Feature 2 also shares this dump. A road accesses the feature between the adit and the dump.

Feature 2 (4256736HO2) is a mine adit measuring ten feet wide by eight feet high and with an associated dump. The interior is supported and extends for an unknown distance into highly fractured, jointed sandstone and shale. There are two sets of 6" by 6" cribbing with 2" by 12" lagging on ribs. These are mostly in good condition, although portions are partially collapsed. The adjacent dump measures 60 feet across, is 60 feet high and contains approximately 840 cubic yards of fill. Feature 1 also shares this dump. A road accesses the feature between the adit and the dump.

Feature 3 is a frame box made of 6" by 6" and 2" by 6" planks with a roof made of 2" by 4"s. The entire box forms a five-foot cube. This may have been used in the mine to provide protection for the miners while working on the mine face.

Artifacts on the site include fragments of dimensional lumber and segments of fuse cord.

NRHP ELIGIBILITY ASSESSMENTS

Of the six recorded sites, four (42Em3346, 42Em3348, 42Gr3531, and 42Gr3532) are recommended as ineligible for listing on the NRHP. Each of these sites is approximately 50 years old, possibly dating to between 1953 and 1957. However, the sites are small and provide no evidence, either historical or archaeological, of ever having produced marketable ore. The adits are shallow, the spoil piles are small and there are no permanent features other than those immediately associated with the mine itself. Because of their age they have little or no potential for subsurface remains and this recording has exhausted their surface manifestations.

Sites 42Em3347 and 42Gr3530 are recommended as eligible for listing on the NRHP. 42Em3347 with its still-standing mining buildings and extensive trash scatter is eligible under criterion D for its information content. 42Gr3530 is similarly eligible under criterion D but also under criterion A, for its contribution to our understanding of Cold War-era uranium mining.

ASSESSMENT OF IMPACTS AND EFFECT RECOMMENDATIONS

Abandoned mines can be closed in a variety of ways. Relatively shallow shafts are usually backfilled with adjacent spoil or fill brought in from elsewhere. This can be done with power equipment or by using hand tools. Deep shafts can be plugged with rock, concrete, concrete foam, polyurethane foam or covered with steel bars set into concrete footings. Horizontal openings, such as the ones recorded for this project, are often sealed with a rock or soil plug, or a bulkhead is constructed of native stone. Occasionally, a track hoe is used to pull down unconsolidated fill from around the brow of the adit and use this material to bury the opening. If necessary, a steel bat gate is constructed so that bats can continue to use the interior.

No special protection measures are recommended for the 13 closures at 42Em3346, 42Em3348, 42Gr3531, and 42Gr3532 since these sites are recommended as not eligible for listing on the NRHP. Of the two sites recommended as eligible for listing on the NRHP, 42Em3347 includes four mine openings slated for closure and 42Gr3530 includes five mine openings slated for closure. DOGM plans to employ closure methods that would not adversely affect the characteristics that contribute to these sites' significance.

At 42Em3347 each of the four mine openings would be hand backfilled using material from the adjacent spoil piles. The fill would only be placed on the interior of the adits so the brow of the adit would still be visible. At 42Gr3530, which sees a large amount of visitation and requires more permanent closure methods, each of the five adits would be closed using solid concrete block walls placed approximately four feet on the inside the adit. This would allow the opening of the mines to remain visible while preventing entrance.

Since no surface aspects of the sites would be affected by the closure activities, it is recommended that the action would result in "no effect" to historic properties.

CONCLUSION AND RECOMMENDATIONS

This report was prepared by the Utah Division of Oil, Gas and Mining (DOGM) to provide evaluations of the historic values of 22 abandoned mine openings. The properties are all in the vicinity of the Bowknot Bend of the Green River, approximately 30 miles west of Moab Utah. The mines require significance evaluation as well as assessments of potential impacts from reclamation

activities. Each is located on land under the jurisdiction of the Bureau of Land Management's (BLM) Price and Moab field offices.

Approximately 35 acres of land was surveyed at six locations, incorporating 22 mine openings. Six archaeological sites were identified. Four of these sites, 42Em3346, 42Em3348, 42Gr3531, and 42Gr3532, have been recommended as ineligible for listing on the National Register of Historic Places. Two of the sites, 42Em3347 and 42Gr3530, are recommended as eligible but will be subjected to closure methods that do not diminish the characteristics that contribute to their significance. We recommend, therefore, that the project would result in "no effect" to historic properties.

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APPENDIX 1

PROJECT IMACS

1990

IMACS ENCODING FORM

Encoder's Name: Everett Bassett

To be completed for each site form.
For instructions and codes, see IMACS Users Guide.

1 State Site Number: 42 - Em - 003346

2 Agency Site Number: NA -

6 Agency Report Number: NA NA

10 Elevation: 3360

11

Zone	Easting	Northing
12	586030	4275060
12	586466	4274913

A

12

1/4	1/4	1/4	Sec.	T.		R.	
	N	NE	23	24	S	17	E

13 Merid.: 1

14 USGS Map: Bowknot Bend 7.5'

17 Owner: LM

18 Forest:

Pr Dist./Park

19 Loc. Cur. Materials:

21 Cond.: B

22 Impacts: SD ER

23 N.R.: D

26 Organ.: EL

28 Survey Date: 15 - 9 - 04

29 Slope: 98

Aspect: 998

30 Water: dstance/type: 0.93 B

31 Geog. Unit: CAS

32 Topographic Locatio: 1st G 2st F

33 Dep.: B

34 Vegetation: E

35 Misc. Text, Site Name: Bowknot Bend/Alleen Mines

B

2 Culture/Dating Method:

3 Area:

4 Collect:

5 Depth:

6 Excav. Status:

7 Prehistoric Artifacts:

8 Lithic Tools: # / type:

9 # Flaking Stages:

11 Ceramics: #/type:

13 Features: # / type:

14 Architecture: # / material / type:

C

2 Historic Themes: MN

3 Culture/Dating Method: EA I

4 Dates: 1953 1960

5 Area: 30024

6 Collect: A

7 Depth: A

8 Excav. Status: C

9 Artifacts: WD TP WI / TK BB MD / PH MT ME

14 Features: # / type: 5 MN 5 MT 1 TR

15 Architecture: # / material / type: 1 K BE

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IMACS SITE FORM

Part A - Administrative Data

INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM
Form approved for use by
BLM - Utah, Idaho, Wyoming, Nevada
Division of State History - Utah, Wyoming
USFS - Intermountain Region
NPS - Utah, Wyoming

*1. State No: 42Em3346
*2. Agency No: none
3. Temp. No: LC-AMR-2

4. State Utah County: Emery
5. Project Labyrinth Canyon Abandoned Mine Reclamation Project
*6. Report No. U-04-EL-1283b
*7. Site Name / Property Name Alleen and Bowknot Bend mine properties
8. Class ☐ Prehistoric ☑ Historic ☐ Paleontologic ☐ Ethnographic
9. Site Type uranium mine complex
*10. Elevation 3,360 ft.
*11. UTM Grid 12 586409 m E 4274909 m N
*12. ____ of N of NE of Section 23 T. 25S R. 17E
*13. Meridian (1) SLC (Utah)
*14. Map Reference Bowknot Bend, Utah 7.5' USGS Topo
15. Aerial Photo None
16. Location and Access

The site is located 0.3 miles upstream from milepost 68 on the Green River. The site is on river right with no road access. Landing sites are few and a difficult bushwhack through the tamarisk is required to reach the site.

*17. Land Owner (LM) BLM
*18. Federal Administrative Units Price
*19. Location of Curated Materials none
20. Site Description

42Em3346consists of two clusters of mining features located on the canyon wall on the northwest side of the Bowknot Bend of the Green River. On the north end is a single adit, a chute, and two areas of trash dispersal. This is known as the Bowknot Bend mine. At the south end of the site are the four adits that make up the Alleen mine group. An access road connects the mines.

*21. Site Condition ☐ Excellent (A) ☑ Good (B) ☐ Fair (C) ☐ Poor (D)
*22. Impact Agents (SD) Structural Decay, (ER) Erosion
*23. National Register Status (D) Non-significant (Professional Judgment)
Justify This collection of small mines did not provide marketable amounts of uranium ore, contains few cultural features other than the mine openings and associated spoil dumps, and may be less than 50 years of age.
24. Photos LC-1 10-12
25. Recorded by Everett Bassett
*26. Survey Organization Everett Bassett for Utah Div of Oil, Gas and Mining *28. Survey Date 15-Sep-2004
27. Assisting Crew Members Anthony Gallegos, Ken Wyatt

List of Attachments ☐ Part B ☑ Topo Map ☑ Photos ☑ Continuation Sheets
☑ Part C ☑ Site Sketch ☐ Artifact/Feature Sketch ☐ Other: ____
☐ Part E

* Encoded data items

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BLM 8100-1
FS R-4 2300-2
3/90

Part A - Environmental Data

State No: 42Em3346
Temp. No: LC-AMR-2

***29. Slope** 98 **(Degrees)** 998 **Aspect (Degrees)**

***30. Distance to Permanent Water** 0.93 **x 100 Meters**

***Type of Water Source** (B) River

Name of Water Source Green River

***31. Geographic Unit** (CAS) Green River Desert

***32. Topographic Location** *- See Guide for additional information*

Primary Landform (G) Canyon

Secondary Landform (F) Cliff

Describe The site is located on a near-vertical cliff of the Green River's Labyrinth Canyon. Portions of the site are also located on the level area at the base of the cliff but still some distance from the river.

***33. On-site Depositional Context** (B) Talus, (H) Alluvial Pla

Describe The site is mainly sandstone talus and exposed bedrock comprising the Labyrinth Canyon wall. Alluvium is present in the flats at the base of the cliff.

***34. Vegetation**

a. Life Zone

☐ Artic-Alpine (A) ☐ Hudsonian (B) ☐ Canadian (C) ☐ Transitional (D) ☑ Upper Sonoran (E) ☐ Lower Sonoran (F)

b. Community

Primary On-Site (Q) Little Sagebrush

Secondary On-Site (R) Barren

Surrounding Site (Q) Little Sagebrush

Describe The slope of the hillside is mostly barren although it contains some black brush, sagebrush, prickly pear cactus and rabbitbrush. These same plant species are present in greater densities on the level portions of the site.

***35. Miscellaneous Text** none

36. Comments/Continuations

This is a long site. The north end is at 586030 4275060. The south end is at 586466 4274913.

* Encoded data items

Printed on 11/12/2004 11:21:0

BLM 8100-1
FS R-4 2300-2
3/90

Part C - Historic Sites

Site No.(s) 42Em3346
N/A
LC-AMR-2

1. Site Type uranium mine complex

***2. Historic Themes** (MN) Mining/Mineral Extraction

	CULTURAL AFFILIATION	DATING METHOD	CULTURAL AFFILIATION	DATING METHOD
***3. Culture**	(EA) European/American	(I) Historic Record		

Describe Historical records indicate the mines were operated by Euro-Americans.

***4. Oldest Date** c. 1953 **Recent Date** c. 1958

How Determined (I) historical record

5. Site Dimensions 503 m X 76 m ***Area** 30,024 sq. m

***6. Surface Collection/Method**
- [x] None (A)
- [ ] Grab Sample (B)
- [ ] Designed Sample (C)
- [ ] Complete Collection (D)

Sampling Method N/A

***7. Estimated Depth of Cultural Fill**
- [x] Surface (A)
- [ ] 0 - 20 cm (B)
- [ ] 20 - 100 cm (C)
- [ ] 100 cm+ (D)
- [ ] Fill noted but unknown (E)
- [ ] Depth Suspected, but not tested (F)

How Estimated The site dates to the mid 1950s in a location where there is very little soil deposition.

(If Tested, show location on site map)

***8. Excavation Status**
- [ ] Excavated (A)
- [ ] Tested (B)
- [x] Unexcavated (C)

Testing Method N/A

***9. Summary of Artifacts and Debris** *(Refer to Guide for additional categories)*

(WD) dimensional lumber	(TK) truck parts	(PH) air compressor pipe	
(TP) tar paper	(BB) bucket	(MT) shaft ladder	
(WI) wire rope	(MD) metal drums	(ME) metal fragments	

Describe: see attachment

10. Ceramic Artifacts

Paste	Glaze/Slip	Decoration	Pattern	Vessel Form	Count

a. Estimated Number of Ceramic Trademarks 0

Describe:

11. Glass

Count	Manufacture	Color	Function	Trademark	Decoration

Part C - Historic Sites

Site No.(s) 42Em3346
N/A
LC-AMR-2

Describe:

12. Maximum Density - #/sq m (glass and ceramics) 0

13. Tin Can

Type	Opening	Size	Modified	Label/Mark	Function

Describe:

***14. Landscape and Constructed Features (locate on site map)** *- See Guide for additional categories*

5 mining adits (MN)		
5 ore dumps (MT)		
1 road system (TR)		

Describe: see attachment

***15. Buildings and Structures (locate on site map)**

Count	Material	Type	Count	Material	Type
1	frame (K)	loading chute (BE)			

Describe: see attachment

16. Comments/Continuations - Please make note of any Historic Record searches performed *(County Records, General Land Office, Historic Society, Land Management Agency Records, Oral Histories/Interviews)*

Uranium mining began in this area in 1953 and development of most mines ended between 1957 and 1962 when the federal government ended most of their purchases from small operators.

CONTINUATION SHEET
42Em3346
Bowknot Bend and Alleen Mine Groups

Feature 1 (251723HO1) is a mine adit measuring six and one-half feet wide by seven feet high and with an associated dump. A large load out facility (Feature 2) is also adjacent to the adit. The interior is unsupported and extends for approximately 80 feet into friable sandstone. The adjacent dump measures 40 feet across, is 50 feet high and contains approximately 375 cubic yards of fill. In the vicinity of the mine are numerous scraps of dimensional lumber, tarpaper, pipes, wire rope, and a hand-made ladder. A road accesses the feature between the adit and the dump.

On the level mesa top north of Feature 1 is a dispersed scatter of trash and equipment that includes scraps of cut metal, fragments of dimensional lumber, and the rear axel assemblage from a compressor truck. A 1.5" pipeline for compressed air crosses the mesa top. Test drilling had been conducted at various locations across the top of the mesa into the area behind the adit. However, given the nature of the terrain it is not clear how the equipment was transported or removed from the mesa top.

Feature 2 is an ore chute that transported ore from near the portal of Feature 1, 50 feet to the flats at the base of the mesa. The outer frame of the chute is constructed from 8" by 8" beams that form horizontal and vertical supports, 6" by 8" beams that form horizontal and diagonal supports, and some 4" by 4" beams providing supplementary vertical support. On the interior, the floor of the chute is lined with 3" by 12" planks and the walls are formed of 3" by 12" planks on the lower two feet and 2" by 12" planks on top. The downhill portion of the chute is supported by four sets of vertical supports placed five feet apart. The portion of the chute at the bottom of the hill forms an A-frame 18 feet across at the bottom and 6 feet across at the top. The opening at the bottom of the chute measures four feet wide by two feet high and has grooved sides to accommodate a sliding door. The chute is in good condition.

At the base of the hill below the ore chute is a large, disperse trash scatter. This includes many fragments of dimensional lumber, 12" by 12" beams, poles, barrels, segments of ¾" pipe, oil cans, and a galvanized bucket.

Feature 3 (251723HO2) is a mine adit measuring six feet wide by four and one-half feet high. The mine is located within a cul-de-sac of the canyon wall near to Feature 4. The interior is unsupported and extends for approximately 100 feet into highly fractured, jointed sandstone. There is no associated dump. A road accesses the feature.

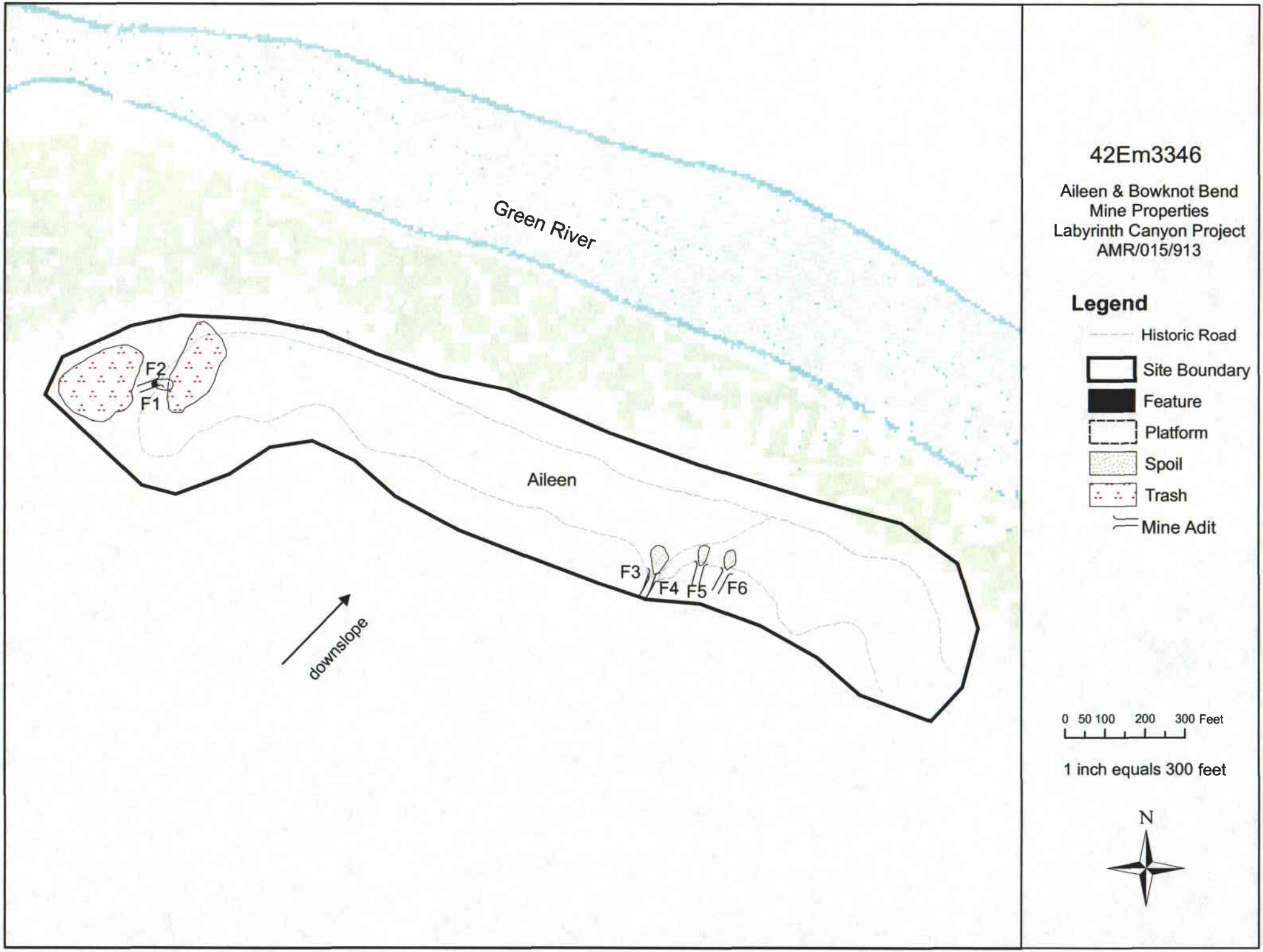
Feature 4 (251723HO3) is a mine adit measuring six feet wide by four and one-half feet high and with an associated dump. The mine is located within a cul-de-sac of the canyon wall near to Feature 3. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. The adjacent dump measures 15 feet across, is 25 feet high and contains less than 100 cubic yards of fill. A road accesses the feature between the adit and the dump.

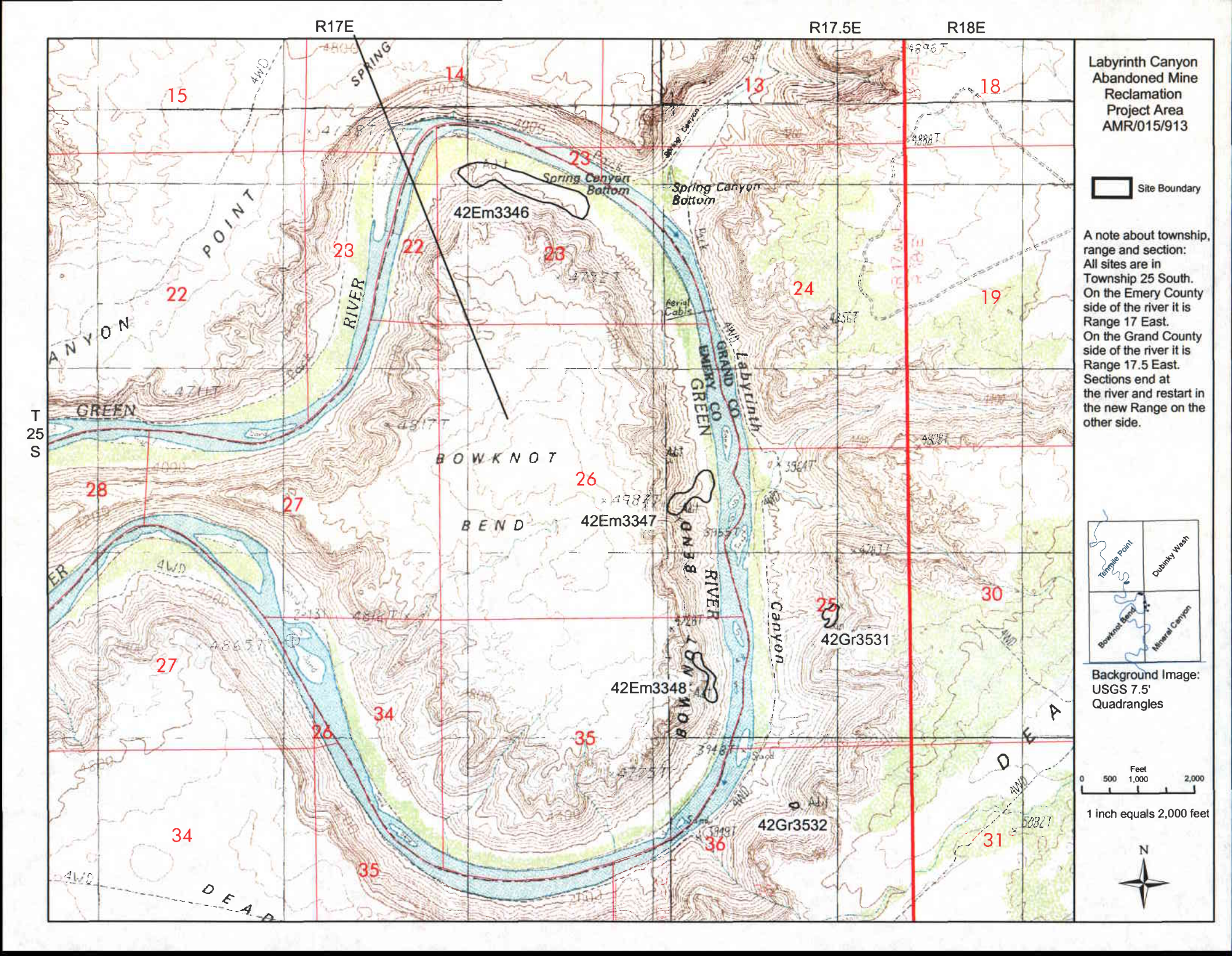
Feature 5 (251723HO4) is a mine adit measuring four feet wide by six and one-half feet high and with an associated dump. The interior is unsupported and extends for approximately 65 feet into highly fractured, jointed sandstone. The adjacent dump measures 30 feet across, is two feet thick and contains only a small amount of fill. A road accesses the feature between the adit and the dump.

Feature 6 (251723HO5) is a mine adit measuring four feet wide by six feet high and with an associated dump. The interior is unsupported and extends for approximately 60 feet into highly fractured, jointed sandstone. The adjacent dump measures 60 feet across, is two feet thick and contains less than 20 cubic yards of fill. A road accesses the feature between the adit and the dump.

42Em3346, Features 3-6. View to the southwest.

42Em3346, Feature 2. View to the west.


Green River
F2
F1
Aileen
F3
F4
F5
F6
downslope
42Em3346
Aileen & Bowknot Bend
Mine Properties
Labyrinth Canyon Project
AMR/015/913
Legend
Historic Road
Site Boundary
Feature
Platform
Spoil
Trash
Mine Adit
0 50 100 200 300 Feet
1 inch equals 300 feet
N


R17E
R17.5E
R18E
T 25 S
42Em3346
42Em3347
42Em3348
42Gr3531
42Gr3532
Spring Canyon Bottom
Labyrinth Canyon Abandoned Mine Reclamation Project Area AMR/015/913
Site Boundary
A note about township, range and section:
All sites are in Township 25 South.
On the Emery County side of the river it is Range 17 East.
On the Grand County side of the river it is Range 17.5 East.
Sections end at the river and restart in the new Range on the other side.
Tenmile Point
Dubinky Wash
Bowknot Bend
Mineral Canyon
Background Image: USGS 7.5' Quadrangles
Feet
0 500 1,000 2,000
1 inch equals 2,000 feet
N

1990

IMACS ENCODING FORM

Encoder's Name: Everett Bassett

To be completed for each site form.
For instructions and codes, see IMACS Users Guide.

A

1 State Site Number	2 Agency Site Number	6 Agency Report Number	10 Elevation	11 Zone	Easting	Northing
42 - Em - 003347	NA -	NA NA	3390	12	587111	4273267

12 1/4	1/4	1/4	Sec.	T.	R.	13 Merid.	14 USGS Map	17 Owner
NW	NW	NW	25	25 S	17 E	1	Mineral Canyon 7.5'	LM

18 Forest	Dist./Park	19 Loc. Cur. Materials	21 Cond.	22 Impacts			23 N.R.	26 Organ.	28 Survey Date	29 Slope	Aspect
	Pr		B	DM	SD	ER	C	EL	16 - 9 - 04	98	85

30 Water: dstance/type		31 Geog. Unit	32 Topographic Locatio 1st	2st	33 Dep.	34 Vegetation 1	2	3	35 Misc. Text, Site Name
0.78	B	CAS	G	1	B	E	Q	L	R	Willow Rose Mine Property

B

2 Culture/Dating Method	3 Area	4 Collect	5 Depth	6 Excav. Status	7 Prehistoric Artifacts

8 Lithic Tools: # / type	9 #	Flaking Stages	11 Ceramics: #/type	13 Features: # / type	14 Architecture: # / material / type

C

2 Historic Themes	3 Culture/Dating Method	4 Dates	5 Area	6 Collect	7 Depth	8 Excav. Status	9 Artifacts		
MN	EA I	1953	13602	A	A	C	WD	FA	TC
		1960					TP	MD	ME
							TK	MT	FU

14 Features: # / type						15 Architecture: # / material / type								
4	MN	3 MT	1	TR		2	K	DO	2	K	BY			

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IMACS SITE FORM

Part A - Administrative Data

INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM
Form approved for use by
BLM - Utah, Idaho, Wyoming, Nevada
Division of State History - Utah, Wyoming
USFS - Intermountain Region
NPS - Utah, Wyoming

*1. State No: 42Em3347
*2. Agency No: none
3. Temp. No: LC-AMR-3

4. State Utah County: Emery
5. Project Labyrinth Canyon Abandoned Mine Reclamation Project
*6. Report No. U-04-EL-1283b
*7. Site Name / Property Name Willow Rose mine properties
8. Class ☐ Prehistoric ☑ Historic ☐ Paleontologic ☐ Ethnographic
9. Site Type uranium mine complex
*10. Elevation 3,390 ft.
*11. UTM Grid 12 587112 m E 4273267 m N
*12. NW of NW of NW of Section 25 T. 25S R. 17E
*13. Meridian (1) SLC (Utah)
*14. Map Reference Mineral Canyon, Utah 7.5' USGS Topo
15. Aerial Photo None
16. Location and Access

Float the Green River to mile 66.5. Land river right and bushwhack through about 40 feet of tamarisk to the open area at the base of the cliff. An old road leads from the canyon flow to the adits.

*17. Land Owner (LM) BLM
*18. Federal Administrative Units Price
*19. Location of Curated Materials none
20. Site Description

42Em3347 consists of four mine adits that make up the Willow Rose mine group. The adits are located on the steep canyon wall on the west side of the Bowknot Bend of the Green River. An access road connects the mines. On the flood plain below the mines are two standing frame buildings, two building foundations, and a dispersed trash scatter spread across the flats.

*21. Site Condition ☐ Excellent (A) ☑ Good (B) ☐ Fair (C) ☐ Poor (D)
*22. Impact Agents (DM) Dismantling, (SD) Structural Decay, (ER) Erosion, (RV)
*23. National Register Status (C) National Register Quality (Professional Judgment)

Justify This site produced marketable quantities of uranium ore and possesses the remnants of a uranium mining facility, complete with building foundations and a standing load out facility that date to the mid-1950s. It is eligible for listing on the NRHP under criterion D (for its information potential) and A (for its association with post-war uranium mining in Utah.)

24. Photos LC-1 13-16
25. Recorded by Everett Bassett
*26. Survey Organization Everett Bassett for Utah Div of Oil, Gas and Mining *28. Survey Date 16-Sep-2004
27. Assisting Crew Members Anthony Gallegos, Ken Wyatt

List of Attachments ☐ Part B ☑ Topo Map ☑ Photos ☑ Continuation Sheets
☑ Part C ☑ Site Sketch ☐ Artifact/Feature Sketch ☐ Other:
☐ Part E

* Encoded data items

Printed on 11/12/2004 11:18:2

BLM 8100-1
FS R-4 2300-2
3/90

Part A - Environmental Data

State No: 42Em3347
Temp. No: LC-AMR-3

***29. Slope** 98 **(Degrees)** 85 **Aspect (Degrees)**

***30. Distance to Permanent Water** 0.78 **x 100 Meters**

***Type of Water Source** (B) River

Name of Water Source Green River

***31. Geographic Unit** (CAS) Green River Desert

***32. Topographic Location** *- See Guide for additional information*

Primary Landform (G) Canyon

Secondary Landform (1) Multiple Secondary Landfo

Describe The site is located on a near-vertical cliff of the Green River's Labyrinth Canyon. Portions are also located on the level area adjacent to the base of the cliff and on the margin of the floodplain.

***33. On-site Depositional Context** (B) Talus, (H) Alluvial Pla

Describe The site is mainly sandstone talus and exposed bedrock comprising the Labyrinth Canyon wall. Alluvium is present in the flats at the base of the cliff and on the Green River flood plain.

***34. Vegetation**

a. Life Zone

☐ Artic-Alpine (A) ☐ Hudsonian (B) ☐ Canadian (C) ☐ Transitional (D) ☑ Upper Sonoran (E) ☐ Lower Sonoran (F)

b. Community

Primary On-Site (Q) Little Sagebrush

Secondary On-Site (L) Riparian

Surrounding Site (R) Barren

Describe The slope of the hillside is mostly barren although it contains some black brush, sagebrush, prickly pear cactus and rabbitbrush. These same plant species are present in greater densities on the level portions of the site. A thick tamarisk and willow bosque is present on the portion of the site adjacent to the river

***35. Miscellaneous Text** none

36. Comments/Continuations

none

* Encoded data items

Printed on 11/12/2004 11:21:2

BLM 8100-1
FS R-4 2300-2
3/90

Part C - Historic Sites

Site No.(s) 42Em3347
N/A
LC-AMR-3

1. Site Type uranium mine complex

***2. Historic Themes** (MN) Mining/Mineral Extraction

	CULTURAL AFFILIATION	DATING METHOD	CULTURAL AFFILIATION	DATING METHOD
***3. Culture**	(EA) European/American	(I) Historic Record		

Describe Historical records indicate the mines were operated by Euro-Americans.

***4. Oldest Date** c. 1953 **Recent Date** c. 1958

How Determined (I) historical record

5. Site Dimensions 69 m X 251 m ***Area** 13,602 sq. m

***6. Surface Collection/Method**
- [x] None (A)
- [ ] Grab Sample (B)
- [ ] Designed Sample (C)
- [ ] Complete Collection (D)

Sampling Method N/A

***7. Estimated Depth of Cultural Fill**
- [x] Surface (A)
- [ ] 0 - 20 cm (B)
- [ ] 20 - 100 cm (C)
- [ ] 100 cm+ (D)
- [ ] Fill noted but unknown (E)
- [ ] Depth Suspected, but not tested (F)

How Estimated The site dates to the mid 1950s in a location where there is very little soil deposition.

(If Tested, show location on site map)

***8. Excavation Status**
- [ ] Excavated (A)
- [ ] Tested (B)
- [x] Unexcavated (C)

Testing Method N/A

***9. Summary of Artifacts and Debris** *(Refer to Guide for additional categories)*

(WD) dimensional lumber	(BB) bucket	(FU) bed frame and table	(TC) sanitary cans
(TP) tar paper	(SO) rubber boot	(MD) metal drums	(MO) shaving cream tube
(TK) truck parts	(FA) tent fabric	(MT) rock probe and drill	(ME) misc. metal pieces

Describe: see attachment

10. Ceramic Artifacts

Paste	Glaze/Slip	Decoration	Pattern	Vessel Form	Count

a. Estimated Number of Ceramic Trademarks 0

Describe:

11. Glass

Count	Manufacture	Color	Function	Trademark	Decoration

Part C - Historic Sites

Site No.(s) 42Em3347
N/A
LC-AMR-3

Describe:

12. Maximum Density - #/sq m (glass and ceramics) 0

13. Tin Can

Type	Opening	Size	Modified	Label/Mark	Function
sanitary cans	T cut	8 oz regular			food
rectangular sanitary	screw cap	2 gallon			fuel

Describe: Numerous 8 oz sanitary cans are present. These appear to date to the late 1950s or early 1960s. Four fuel cans are present.

14. Landscape and Constructed Features (locate on site map)** ***- See Guide for additional categories

4 mining adits (MN)
3 ore dumps (MT)
1 road system (TR)

Describe: see attachment

***15. Buildings and Structures (locate on site map)**

Count	Material	Type	Count	Material	Type
2	frame (K)	mining building (DO)			
2	frame (K)	foundations (BY)			

Describe: see attachment

16. Comments/Continuations - Please make note of any Historic Record searches performed *(County Records, General Land Office, Historic Society, Land Management Agency Records, Oral Histories/Interviews)*

Uranium mining began in this area in 1953 and development of most mines ended between 1957 and 1962 when the federal government ended most of their purchases from small operators.

CONTINUATION SHEET
42Em3347
Willow Rose Mine Group

Feature 1 is a still-standing frame building measuring 16.5 feet east west by ten feet north-south. The walls are 6.5 feet high and the roof has a curved eight-inch peak formed by bending the roof joists over three spacers. The interior of the building is framed with 2" by 4"s and sheathed with 1" by 12" horizontal planks. These are covered on the exterior with green aggregate tar paper with vertical battens at the seams. There is no evidence of any interior walls or ceiling. The roof support is fabricated from variable-width ½-inch sheathing; these were probably covered with tar paper but none now remains. A stovepipe hole had been cut in the southwest corner of the roof. The floor of the building is unimproved dirt.

A two-foot high by four-foot wide framed window is located on the center of the north and south walls. A framed three-foot by six-foot doorway is located on the north end of the west side, although the door is now missing. Two screened but unframed openings had been cut into the walls at a later date to increase airflow. These are a two-foot wide by 1.25-foot high opening on the north side and a two-foot wide by 2.5-foot opening located on the east side. The interior also has several shelves attached to the frame and fabricated from wooden crates and slats. A tube of Mentholatum shaving cream remains on one of the shelves.

On the eastern exterior of the building is the floor of a porch measuring ten feet north-south by 12 feet east-west and is nine inches high. It is constructed of 2" by 4" framing with 1" by 12" flooring. A 2" by 4" box constructed on the west end of the north side may have held fuel wood. Twenty-five feet to the north of the building is half of a barrel, partially buried, and used as a trash incinerator. Approximately 20 sanitary cans and fragments or melted glass are present at the bottom the barrel. Artifacts in the vicinity of the building include a galvanized pail, a thermos, several 50-gallon barrels, and fragments of wooden crates and dimensional lumber. Feature 1 probably functioned as a residence or bunkhouse for the mineworkers.

Feature 2 appears to be the floor of a large tent house. The feature measures 12 feet east-west by 14 feet north-south and is formed of 2" by 8" joists spaced at four-foot intervals with the flooring comprised of ½" by 8" planks running north-south. At the center of the south side is a 2 foot-square wooden stoop. Surrounding the flooring are scraps of tent material, especially the folded hem and grommets, as well as fragments of window screening. Other artifacts in the vicinity include tires, fragments of rubber and tar paper, and a barrel. Still sitting on the center of the flooring is a large dining table measuring two feet ten inch wide by 12 feet long. This feature was probably a dining tent for the mineworkers.

Feature 3 is a still-standing building, identical to Feature 1, but with the following exceptions: The exterior of the building is sheathed with horizontal 1" by 6"s covered with pieces of black and red aggregate tar paper; there are no battens over the seams. The building has a floor constructed of north-south oriented 1" by 6"s and the windows are located on the north and east walls only. The doorway is located on the south end of the east wall. There are no porches and the stovepipe hole is on the northeast corner of the roof.

This building was used as a storeroom, especially for the rock cores from test drilling conducted in the vicinity of the mines. Several wooden tables are present on the interior and these are covered with decomposed corrugated paper boxes and many cores. There is evidence that more tables and some shelves had also been present but these have been removed. Artifacts on the exterior of the feature include scraps of dimensional lumber and pieces of cut steel plates.

Feature 4 is a partially rotted four-foot square frame of 2" by 4"s located at the base of a steep slope. This may be the remains of a privy although no interior pit is visible.

There is a large scatter of trash around and to the west of Features 1-4.This trash includes numerous 50-gallon barrels including one heavily constructed barrel labeled "Property of Utah Oil Refining Company Salt Lake City Utah". Other artifacts include a 1940s-era truck door, generator, and headlight, a metal bed frame, two sets of leaf springs, a heavy steel rock probe, sanitary cans, fuel cans, scraps of dimensional lumber, and a rubber boot.

Feature 5 (251725HO1) is a mine adit measuring six and one-half feet wide by ten feet high and with an associated dump. The interior is supported by both square sets and continuous box cribbing and extends for approximately 130 feet into highly fractured, jointed sandstone. The adjacent dump measures 80 feet across, is 15 feet high, and contains approximately 875 cubic yards of fill. Atop the dump are fragments of a rail trestle, scraps of corrugated roofing, and a drill bit; no rails remain. A road accesses the feature between the adit and the dump.

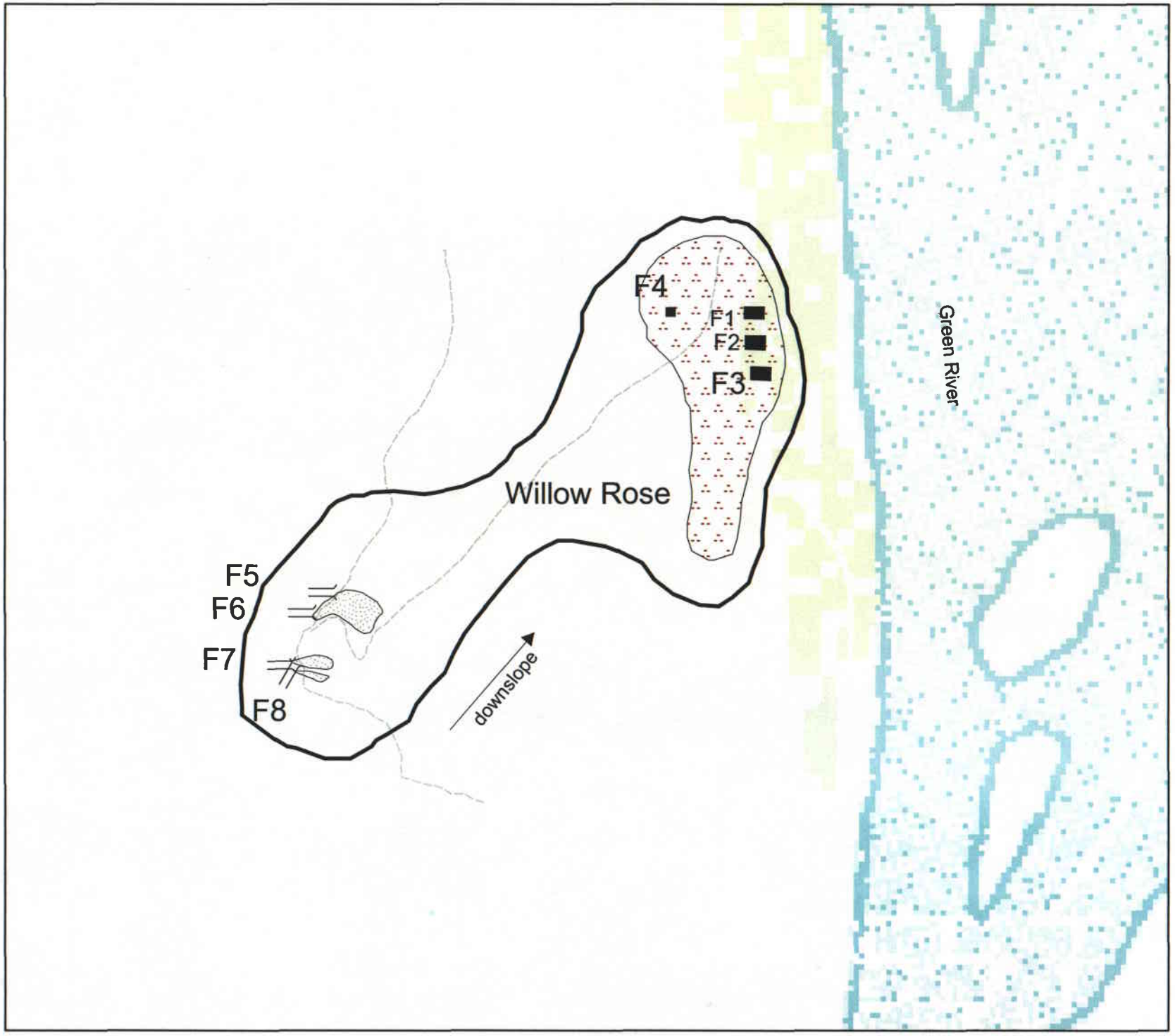
Feature 6 (251725HO2) is a mine adit measuring nine and one-half feet wide by five feet high. The interior is partially supported by wood props and extends for approximately 20 feet into highly fractured, jointed sandstone where it splits and extends for an known distance to both the right and to the left. It is likely that it joins with Feature 5. The adjacent dump is quite dispersed and contains less than 100 cubic yards of spoil. A road accesses the feature between the adit and the dump. Remnants of a small rail trestle are present adjacent to this road

Feature 7 (251725HO3) is a mine adit measuring nine feet wide by nine feet high. The interior is unsupported and extends at a bearing of 270° for an unknown distance into highly fractured, jointed sandstone. The adjacent dump is 20 feet wide, 100 feet long, and contains approximately 630 cubic yards of spoil. A road accesses the feature between the adit and the dump. Remnants of a small rail trestle and scraps of dimensional lumber are present adjacent to dump.

Feature 8 (25172HO10) is a mine adit measuring six feet wide by four feet high. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. The adjacent dump measures 20 feet across and is 80 feet long; downhill from the spoil pile is a dislodged square frame formed of 4" by 4"s, possibly a portion of a small load out facility. A road accesses the feature between the adit and the dump.

42Em3347, Features 5 and 6. View to the west.

42Em3347, Features 1 and 2. View to the northeast.



42Em3347

Willow Rose
Mine Property
Labyrinth Canyon Project
AMR/015/913

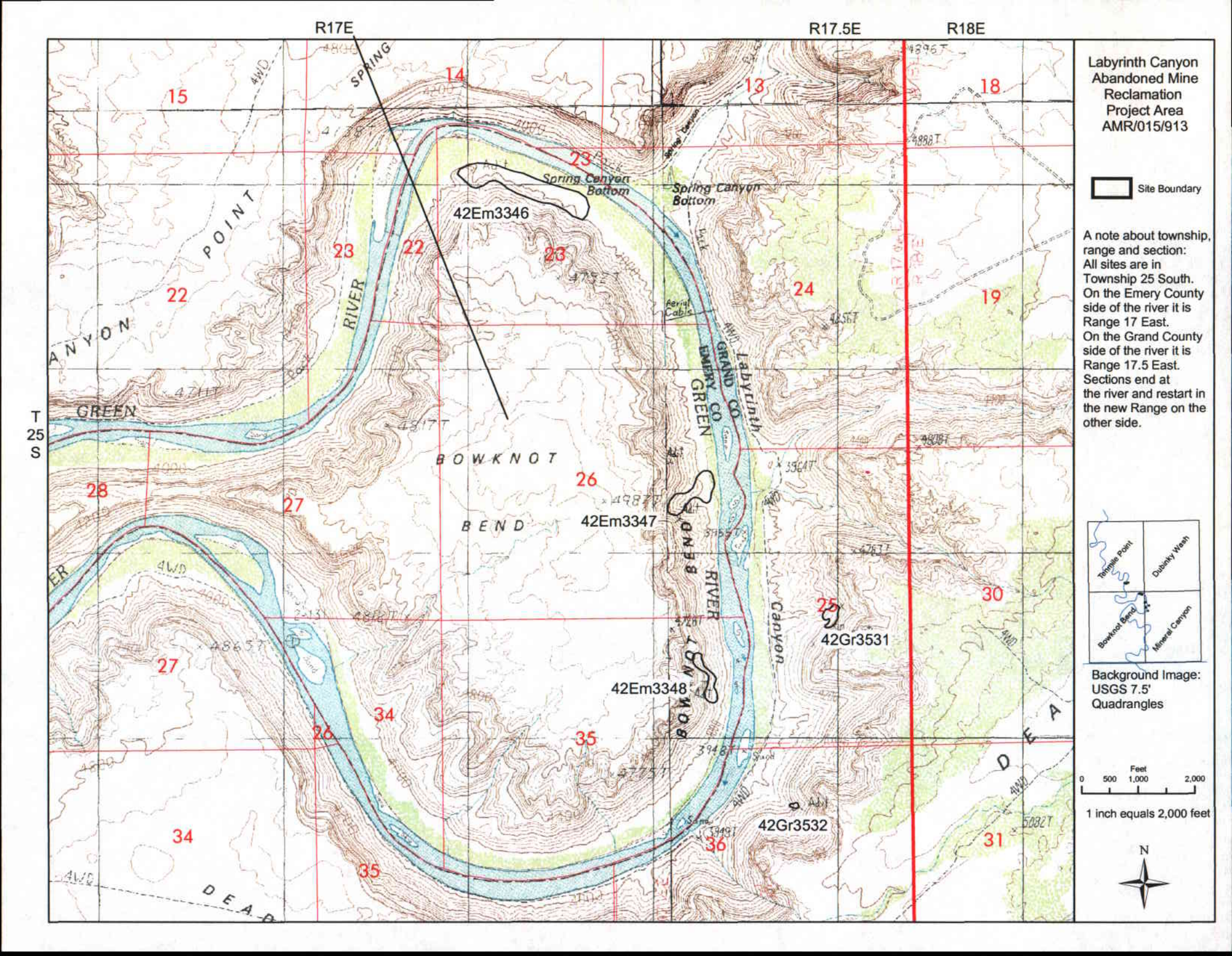
Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

Feet
0 100 200

1 inch equals 200 feet

N


R17E
R17.5E
R18E
T 25 S
Labyrinth Canyon Abandoned Mine Reclamation Project Area AMR/015/913
Site Boundary
A note about township, range and section: All sites are in Township 25 South. On the Emery County side of the river it is Range 17 East. On the Grand County side of the river it is Range 17.5 East. Sections end at the river and restart in the new Range on the other side.
42Em3346
42Em3347
42Em3348
42Gr3531
42Gr3532
Spring Canyon Bottom
Bowknot Bend
Tenmile Point
Dubinky Wash
Mineral Canyon
Background Image: USGS 7.5' Quadrangles
Feet
0 500 1,000 2,000
1 inch equals 2,000 feet
N

1990

IMACS ENCODING FORM

Encoder's Name: Everett Bassett

To be completed for each site form.
For instructions and codes, see IMACS Users Guide.

1 State Site Number: 42 - Em - 003348
2 Agency Site Number: NA -
6 Agency Report Number: NA NA
10 Elevation: 3400
11 Zone: 12 Easting: 587230 Northing: 427440

A

12 1/4 1/4 1/4 Sec. T. R.: | | E | SW | 25 | 25 . S | 17 . E |

13 Merid.: 1
14 USGS Map: Mineral Canyon 7.5'
17 Owner: Im

18 Forest:
Pr Dist./Park
19 Loc. Cur. Materials:
21 Cond.: B
22 Impacts: ER
23 N.R.: D
26 Organ.: EL
28 Survey Date: 16 - 9 - 04
29 Slope: 65
Aspect: 110

30 Water: dstance/type: 0.62 B
31 Geog. Unit: CAS
32 Topographic Locatio: 1st G 2st F
33 Dep.: B
34 Vegetation: E
R Q R
1 2 3
35 Misc. Text, Site Name: Denise Mine Properties

B

2 Culture/Dating Method:
3 Area:
4 Collect:
5 Depth:
6 Excav. Status:
7 Prehistoric Artifacts:

8 Lithic Tools: # / type:
9 # Flaking Stages:
11 Ceramics: #/type:
13 Features: # / type:
14 Architecture: # / material / type:

C

2 Historic Themes: MN
3 Culture/Dating Method: EA I
4 Dates: 1953 1960
5 Area: 4665
6 Collect: A
7 Depth: A
8 Excav. Status: C
9 Artifacts: WD PH MT / TK TA MN

14 Features: # / type: 4 MN 4 MT 1 TR
15 Architecture: # / material / type:

Printed on 12/9/2004 9:28:16 A

IMACS SITE FORM

Part A - Administrative Data

INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM
Form approved for use by
BLM - Utah, Idaho, Wyoming, Nevada
Division of State History - Utah, Wyoming
USFS - Intermountain Region
NPS - Utah, Wyoming

*1. State No: 42Em3348
*2. Agency No: none
3. Temp. No: LC-AMR-4

4. State Utah County: Emery
5. Project Labyrinth Canyon Abandoned Mine Reclamation Project
*6. Report No. U-04-EL-1283b
*7. Site Name / Property Name Denise mine properties
8. Class ☐ Prehistoric ☑ Historic ☐ Paleontologic ☐ Ethnographic
9. Site Type uranium mine complex
*10. Elevation 3,400 ft.
*11. UTM Grid 12 587230 m E 4272440 m N
*12. ____ of E of SW of Section 25 T. 25S R. 17E
*13. Meridian (1) SLC (Utah)
*14. Map Reference Mineral Canyon, Utah 7.5' USGS Topo
15. Aerial Photo None
16. Location and Access

Float the Green River to the island downstream of mile 67. Land river right adjacent to the island. From here bushwhack for approximately 60 feet through the tamarisk to the base of the cliff. An old road leads up the cliff to the adits.

*17. Land Owner (LM) BLM
*18. Federal Administrative Units Price
*19. Location of Curated Materials none
20. Site Description

42Em3348 consists of four mine adits that constitute the Denise Mine property, as well as three pieces of abandoned mining equipment. These are located on the steep canyon wall on the west side of the Bowknot Bend of the Green River. An access road connects the mines.

*21. Site Condition ☐ Excellent (A) ☑ Good (B) ☐ Fair (C) ☐ Poor (D)
*22. Impact Agents (ER) Erosion
*23. National Register Status (D) Non-significant (Professional Judgment)
Justify This collection of small mines did not provide marketable amounts of uranium ore, contains few cultural features other than the mine openings and associated spoil dumps, and may be less than 50 years of age.
24. Photos LC-1 17-20
25. Recorded by Everett Bassett
*26. Survey Organization Everett Bassett for Utah Div of Oil, Gas and Mining *28. Survey Date 16-Sep-2004
27. Assisting Crew Members Anthony Gallegos, Ken Wyatt

List of Attachments ☐ Part B ☑ Topo Map ☑ Photos ☑ Continuation Sheets
☑ Part C ☑ Site Sketch ☐ Artifact/Feature Sketch ☐ Other:
☐ Part E

* Encoded data items

Printed on 11/12/2004 11:19:0

BLM 8100-1
FS R-4 2300-2
3/90

Part A - Environmental Data

State No: 42Em3348
Temp. No: LC-AMR-4

***29. Slope** 65 **(Degrees)** 110 **Aspect (Degrees)**

***30. Distance to Permanent Water** 0.62 **x 100 Meters**

***Type of Water Source** (B) River

Name of Water Source Green River

***31. Geographic Unit** (CAS) Green River Desert

***32. Topographic Location** *- See Guide for additional information*

Primary Landform (G) Canyon

Secondary Landform (F) Cliff

Describe The site is located on a near-vertical cliff of the Green River's Labyrinth Canyon.

***33. On-site Depositional Context** (B) Talus

Describe The site is mainly sandstone talus and exposed bedrock comprising the Labyrinth Canyon wall.

***34. Vegetation**

a. Life Zone

☐ Artic-Alpine (A) ☐ Hudsonian (B) ☐ Canadian (C) ☐ Transitional (D) ☑ Upper Sonoran (E) ☐ Lower Sonoran (F)

b. Community

Primary On-Site (R) Barren

Secondary On-Site (Q) Little Sagebrush

Surrounding Site (R) Barren

Describe The slope of the hillside is mostly barren although it contains some black brush, sagebrush, prickly pear cactus and rabbitbrush.

***35. Miscellaneous Text** none

36. Comments/Continuations

none

* Encoded data items

Printed on 11/12/2004 11:22:0

BLM 8100-1
FS R-4 2300-2
3/90

Part C - Historic Sites

Site No.(s) 42Em3348
N/A
LC-AMR-4

1. Site Type uranium mine complex

***2. Historic Themes** (MN) Mining/Mineral Extraction

	CULTURAL AFFILIATION	DATING METHOD	CULTURAL AFFILIATION	DATING METHOD
***3. Culture**	(EA) European/American	(I) Historic Record		

Describe Historical records indicate the mines were operated by Euro-Americans.

***4. Oldest Date** c. 1953 **Recent Date** c. 1958

How Determined (I) historical record

5. Site Dimensions 198 m X 30 m ***Area** 4,665 sq. m

***6. Surface Collection/Method**
- [x] None (A)
- [ ] Grab Sample (B)
- [ ] Designed Sample (C)
- [ ] Complete Collection (D)

Sampling Method N/A

***7. Estimated Depth of Cultural Fill**
- [x] Surface (A)
- [ ] 0 - 20 cm (B)
- [ ] 20 - 100 cm (C)
- [ ] 100 cm+ (D)
- [ ] Fill noted but unknown (E)
- [ ] Depth Suspected, but not tested (F)

How Estimated The site dates to the mid 1950s in a location where there is very little soil deposition.

(If Tested, show location on site map)

***8. Excavation Status**
- [ ] Excavated (A)
- [ ] Tested (B)
- [x] Unexcavated (C)

Testing Method N/A

***9. Summary of Artifacts and Debris** *(Refer to Guide for additional categories)*

(WD) dimensional lumber	(TK) two trucks		
(PH) compressor hose	(TA) bulldozer		
(MT) fuse cord	(MN) ventilation fan		

Describe: see attachment

10. Ceramic Artifacts

Paste	Glaze/Slip	Decoration	Pattern	Vessel Form	Count

a. Estimated Number of Ceramic Trademarks 0

Describe:

11. Glass

Count	Manufacture	Color	Function	Trademark	Decoration

Part C - Historic Sites

Site No.(s) 42Em3348
N/A
LC-AMR-4

Describe:

12. Maximum Density - #/sq m (glass and ceramics) 0

13. Tin Can

Type	Opening	Size	Modified	Label/Mark	Function

Describe:

***14. Landscape and Constructed Features (locate on site map)** *- See Guide for additional categories*

4 mining adits (MN)		
4 ore dumps (MT)		
1 road system (TR)		

Describe: see attachment

***15. Buildings and Structures (locate on site map)**

Count	Material	Type	Count	Material	Type
0					

Describe:

16. Comments/Continuations - Please make note of any Historic Record searches performed *(County Records, General Land Office, Historic Society, Land Management Agency Records, Oral Histories/Interviews)*

Uranium mining began in this area in 1953 and development of most mines ended between 1957 and 1962 when the federal government ended most of their purchases from small operators.

CONTINUATION SHEET
42Em3348
Denise Mine Group

Feature 1 (251725HO4) is a mine adit measuring eight feet wide by nine and one-half feet high and with an associated dump. The interior is unsupported and extends for approximately 30 feet into highly fractured, jointed sandstone. The interior of the adit is partially collapsed. The adjacent dump measures 10 feet across, is three feet thick and contains less than 20 cubic yards of fill. A road accesses the feature between the adit and the dump.

Feature 2 (251725HO5) is a mine adit measuring seven feet wide by six feet high. There is no associated dump. The interior is unsupported and extends for approximately 70 feet into highly fractured, jointed sandstone. A 2" by 4" post with an unreadable signboard has been posted on the interior. A road accesses the feature between the adit and the dump.

Feature 3 (251725HO6) is a mine adit measuring eight feet wide by seven feet high. There is no associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. A road accesses the feature.

Feature 4 (251725HO7) is a mine adit measuring nine and one-half feet wide by six feet high. There is no associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. Downhill from the adit are a mine ventilation fan and several pieces of dimensional lumber. A road accesses the feature.

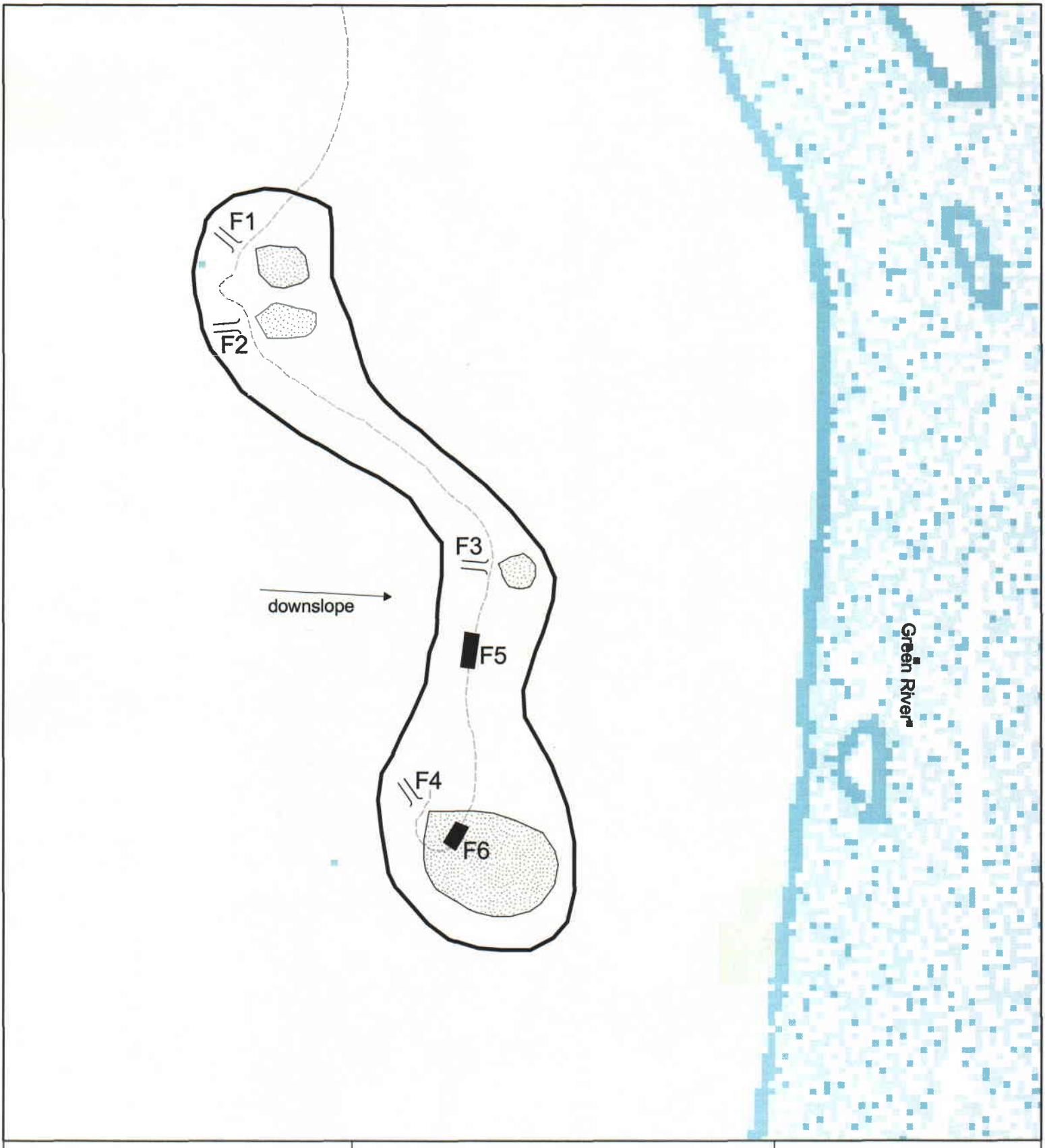
Artifacts scattered along the access road and in the vicinity of the adits include pieces of fuse cord, compressor hose, and scraps of dimensional lumber.

Feature 5 consists of two pieces of abandoned equipment located on the access road adjacent to Feature 3. One is a one and one-half ton truck with a 500-gallon tank. This appears to be a surplus WW II-era Willeys truck with the front axel assemblage removed. The Butane Tank Corporation of Los Angeles produced the tank in 1952. The other piece of equipment is a one-ton truck with a compressor. The truck has had its top cut off and a towing apparatus welded to the front. The Young Radiator Company produced the compressor in 1953.

Feature 6 consists of a small tractor sitting on the access road adjacent to Feature 4. The tractor is a Case Terratrack 600, Terramatic diesel front-end loader.

42Em3348, site overview at upper center of photo. View to the northwest.

42Em3348, Feature 5. View to the north.



N

Feet
0 25 50 100 150

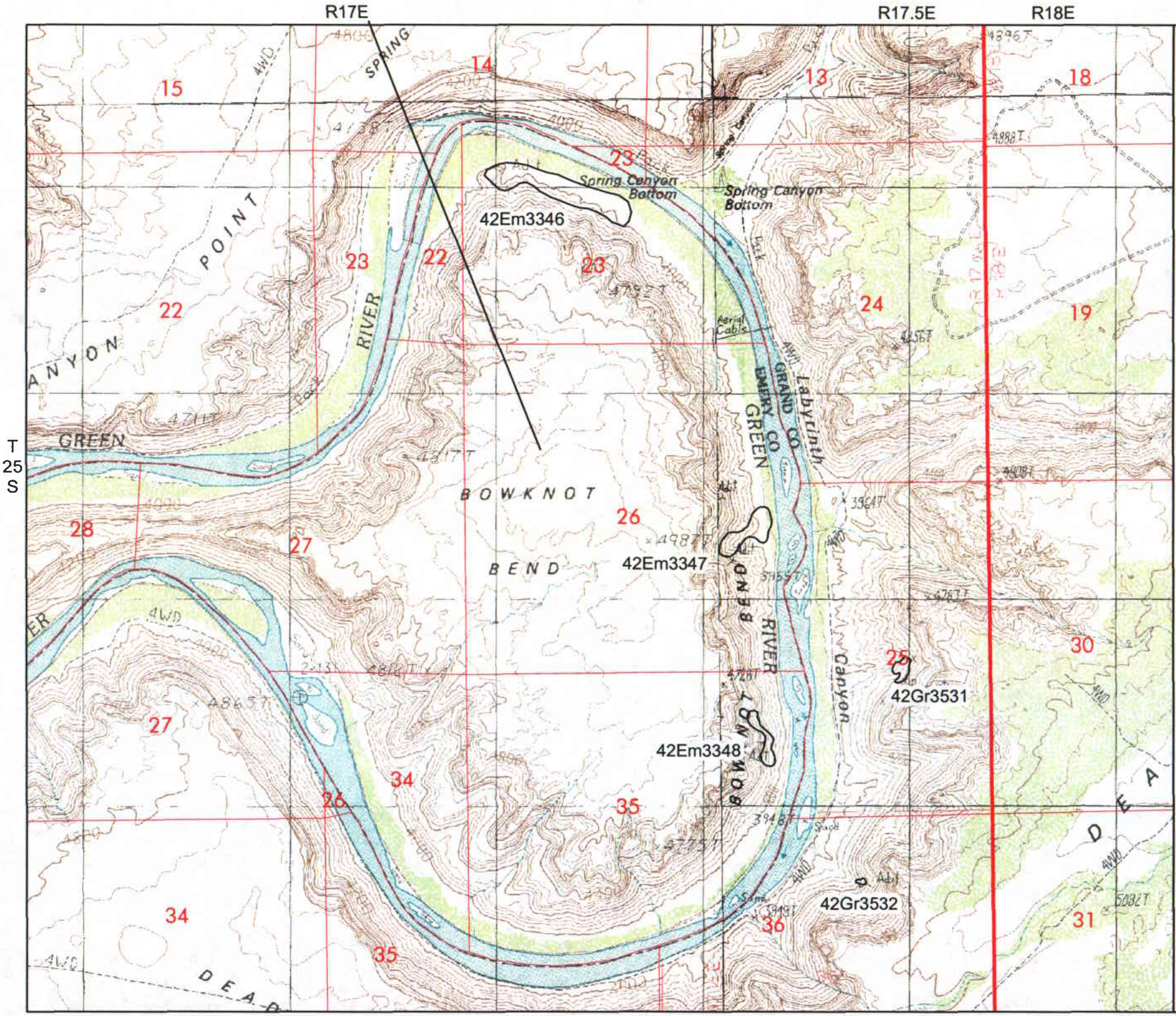
1 inch equals 150 feet

Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

42Em3348

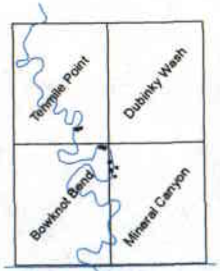
Denise
Mine Property
Labyrinth Canyon Project
AMR/015/913



Labyrinth Canyon
Abandoned Mine
Reclamation
Project Area
AMR/015/913

Site Boundary

A note about township, range and section: All sites are in Township 25 South. On the Emery County side of the river it is Range 17 East. On the Grand County side of the river it is Range 17.5 East. Sections end at the river and restart in the new Range on the other side.



Background Image:
USGS 7.5'
Quadrangles

Feet
0 500 1,000 2,000

1 inch equals 2,000 feet

N

1990 IMACS ENCODING FORM

Encoder's Name: Everett Bassett

To be completed for each site form.
For instructions and codes, see IMACS Users Guide.

1 State Site Number: 42 - Gr - 003530
2 Agency Site Number: NA -
6 Agency Report Number: NA NA
10 Elevation: 3310
11 Zone / Easting / Northing: 12 / 583189 / 4277114; 12 / 583811 / 4271790

A

12 1/4 1/4 1/4 Sec. T. R.: SW 10 25 . S 17 . E; SE 9 25 . S 17 . E
13 Merid.: 1
14 USGS Map: Tenmile Point 7.5'
17 Owner: LM

18 Forest:
Dist./Park: B6
19 Loc. Cur. Materials:
21 Cond.: B
22 Impacts: DM ER RC
23 N.R.: C
26 Organ.: EL
28 Survey Date: 14 - 9 - 04
29 Slope: 98
Aspect: 998

30 Water: dstance/type: 0.46 B
31 Geog. Unit: CAS
32 Topographic Locatio 1st 2st: G 1
33 Dep.: B
34 Vegetation 1 2 3: E Q L R
35 Misc. Text, Site Name: Hey Joe Mining Properties

B

2 Culture/Dating Method:
3 Area:
4 Collect:
5 Depth:
6 Excav. Status:
7 Prehistoric Artifacts:

8 Lithic Tools: # / type:
9 # Flaking Stages:
11 Ceramics: #/type:
13 Features: # / type:
14 Architecture: # / material / type:

C

2 Historic Themes: MN
3 Culture/Dating Method: EA I
4 Dates: 1953 1962
5 Area: 49125
6 Collect: A
7 Depth: A
8 Excav. Status: C
9 Artifacts: TK TA WD / TC SP WI / MD GL SP

14 Features: # / type: 5 MN 4 MT 1 TR
15 Architecture: # / material / type: 1 L BE 2 F BY 2 K BY

Printed on 12/9/2004 9:28:16 A

IMACS SITE FORM

Part A - Administrative Data

INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM
Form approved for use by
BLM - Utah, Idaho, Wyoming, Nevada
Division of State History - Utah, Wyoming
USFS - Intermountain Region
NPS - Utah, Wyoming

*1. State No: 42Gr3530
*2. Agency No: none
3. Temp. No: LC-AMR-1

4. State Utah County: Grand
5. Project Labyrinth Canyon Abandoned Mine Reclamation Project
*6. Report No. U-04-EL-1283b
*7. Site Name / Property Name Hey Joe mine properties
8. Class ☐ Prehistoric ☑ Historic ☐ Paleontologic ☐ Ethnographic
9. Site Type uranium mine complex
*10. Elevation 3,310 ft.
*11. UTM Grid 12 583633 m E 4277151 m N
*12. ____ of ____ of SW of Section 10 T. 25S R. 17E
*13. Meridian (1) SLC (Utah)
*14. Map Reference Tenmile Point, Utah 7.5' USGS Topo
15. Aerial Photo None
16. Location and Access

This site is within the mouth of Hey Joe Canyon and adjacent to the east bank of the Green River 21 miles downstream from Ruby Ranch. This is just past MP 76 in the river guide. A trail through the tamarisk leads to the ore load out. An old road accesses the site from Spring Canyon and then along the Green River, but this is only accessible by ATV.

*17. Land Owner (LM) BLM
*18. Federal Administrative Units (B6) Moab
*19. Location of Curated Materials none
20. Site Description

42Gr3530 consists of five mine adits and nine other cultural features along the bottom of Hey Joe Canyon. Together, these constitute the Hey Joe Mine properties that were located by Bill Bronson in 1953 and worked through the late 1950s and possibly into the early 1960s. Marketable ore was produced from this operation. The non-mine features include four building foundations, two dumps, an ore hopper, and three pieces of mining equipment. A network of roads connects the features and provided access to boring locations in the vicinity of the canyon.

*21. Site Condition ☐ Excellent (A) ☑ Good (B) ☐ Fair (C) ☐ Poor (D)
*22. Impact Agents (DM) Demolition/Dismantling, (ER) Erosion, (RC) Recreation Use
*23. National Register Status (C) National Register Quality (Professional Judgment)
Justify The site possesses a relatively intact uranium mining facility complete with standing buildings, that date to the mid-1950s. It is eligible for listing on the NRHP under criterion D (for its information potential) and A (for its association with post-war uranium mining in Utah.)
24. Photos LC-1 1-9
25. Recorded by Everett Bassett
*26. Survey Organization Everett Bassett for Utah Div of Oil, Gas and Mining *28. Survey Date 14-Sep-2004
27. Assisting Crew Members Anthony Gallegos, Ken Wyatt

List of Attachments ☐ Part B ☑ Topo Map ☑ Photos ☑ Continuation Sheets
☑ Part C ☑ Site Sketch ☐ Artifact/Feature Sketch ☐ Other: ____
☐ Part E

* Encoded data items

Printed on 11/12/2004 11:19:4

BLM 8100-1
FS R-4 2300-2
3/90

Part A - Environmental Data

State No: 42Gr3530
Temp. No: LC-AMR-1

***29. Slope** 98 **(Degrees)** 998 **Aspect (Degrees)**

***30. Distance to Permanent Water** 0.46 **x 100 Meters**

***Type of Water Source** (B) River

Name of Water Source Green River

***31. Geographic Unit** (CAS) Green River Desert

***32. Topographic Location** *- See Guide for additional information*

Primary Landform (G) Canyon

Secondary Landform (1) Multiple Secondary Landfo

Describe The site is located within Hey Joe Canyon, which debouches into the Green River. Portions of this large site are at the bottom and along the edges of this canyon and within the flood plain of the Green River at the mouth of Hey Joe Canyon.

***33. On-site Depositional Context** (B) Talus, (H) Alluvial Pla

Describe The site is mainly sandstone talus and exposed bedrock comprising the Labyrinth and Hey Joe canyon walls. Alluvium is present in the flats at the base of the cliffs, on the Green River flood plain, and at the bottom of Hey Joe Canyon.

***34. Vegetation**

a. Life Zone

☐ Artic-Alpine (A) ☐ Hudsonian (B) ☐ Canadian (C) ☐ Transitional (D) ☑ Upper Sonoran (E) ☐ Lower Sonoran (F)

b. Community

Primary On-Site (Q) Little Sagebrush

Secondary On-Site (L) Riparian

Surrounding Site (R) Barren

Describe The slope of the hillside is mostly barren although it contains some black brush, juniper, sagebrush, prickly pear cactus and rabbitbrush. These same plant species are present in greater densities on the level portions of the site. The portion of the site adjacent to the Green River contains a thick tamarisk and willow bosque.

***35. Miscellaneous Text** none

36. Comments/Continuations

This is a long site. The west end is at 583189 4277114. The east end is at 583811 427179. The site is located in the SW 1/4 of Section 10 and the SE 1/4 of Section 9, T25S R17E.

* Encoded data items

Part C - Historic Sites

Site No.(s) 42Gr3530
N/A
LC-AMR-1

1. Site Type uranium mine complex

***2. Historic Themes** (MN) Mining/Mineral Extraction

	CULTURAL AFFILIATION	DATING METHOD	CULTURAL AFFILIATION	DATING METHOD
***3. Culture**	(EA) European/American	(I) Historic Record		

Describe Historical records indicate the mines were operated by Euro-Americans.

***4. Oldest Date** c. 1953 **Recent Date** c. 1960s

How Determined (I) historical record

5. Site Dimensions 76 m X 823 m ***Area** 49,125 sq. m

***6. Surface Collection/Method**
- [x] None (A)
- [ ] Grab Sample (B)
- [ ] Designed Sample (C)
- [ ] Complete Collection (D)

Sampling Method N/A

***7. Estimated Depth of Cultural Fill**
- [x] Surface (A)
- [ ] 0 - 20 cm (B)
- [ ] 20 - 100 cm (C)
- [ ] 100 cm+ (D)
- [ ] Fill noted but unknown (E)
- [ ] Depth Suspected, but not tested (F)

How Estimated The site dates to the mid 1950s in a location where there is very little soil deposition.

(If Tested, show location on site map)

***8. Excavation Status**
- [ ] Excavated (A)
- [ ] Tested (B)
- [x] Unexcavated (C)

Testing Method N/A

***9. Summary of Artifacts and Debris** *(Refer to Guide for additional categories)*

(TK) two trucks	(TC) sanitary cans	(FU) bed springs	(VE) plates
(TA) bulldozer	(SP) stoves, refrigerator	(GL) glass	(BA) batteries
(WD) dimensional lumber	(TP) tarpaper	(MD) metal drums	(WI) wire rope

Describe: see attachment

10. Ceramic Artifacts

Paste	Glaze/Slip	Decoration	Pattern	Vessel Form	Count
white/fine	clear glaze			plate	12

a. Estimated Number of Ceramic Trademarks 0

Describe: the few ceramics consist of fragments of plain boarding house-type white ware plates.

11. Glass Count | Manufacture | Color | Function | Trademark | Decoration

Part C - Historic Sites

Site No.(s) 42Gr3530
N/A
LC-AMR-1

60	pane-float	clear	(G1) window		
1	automatic	clear	undetermined	Owns-Ill.	
3	automatic	aqua	(GO) canning jar lid		

Describe: Glass consists of many fragments of clear glass, most being pane glass with some bottle or jar fragments. One bottle base carries a 1962 Owens-Illinois trademark. Several aqua canning jar lids are also present.

12. Maximum Density - #/sq m (glass and ceramics) 4

13. Tin Can

Type	Opening	Size	Modified	Label/Mark	Function
sanitary cans	T cut	8 oz regular			
hole in cap	knife cut	type 19			evaporated milk
rectangular sanitary can	screw cap	2 gallon			fuel

Describe: The cans present appear to date from the early 1960s. These include aluminum Coors beer cans, aluminum sardine cans, and numerous sanitary and evaporative milk cans. Several hinged tobacco cans and 2 gallon rectangular fuel cans are also present.

14. Landscape and Constructed Features (locate on site map)** ***- See Guide for additional categories

5 mining adits (MN)	2 dumps (DU)	
4 ore dumps (MT)		
1 road system (TR)		

Describe: see attachment

***15. Buildings and Structures (locate on site map)**

Count	Material	Type	Count	Material	Type
1	steel (L)	ore hopper (BE)			
2	concrete (F)	foundations (BY)			
2	frame (K)	foundations (BY)			

Describe: see attachment

16. Comments/Continuations - Please make note of any Historic Record searches performed *(County Records, General Land Office, Historic Society, Land Management Agency Records, Oral Histories/Interviews)*

Uranium mining began in this area in 1953 and development of most mines ended between 1957 and 1962 when the federal government ended most of their purchases from small operators. The Hey Joe properties were located by Bill Bronson. In 1973 the UGS had estimated that 10,141 lbs of uranium ore and 13,093 lbs or vanadium ore had been produced. They also noted that some copper ore was present.

CONTINUATION SHEET
42Gr3530
Hey Joe Mine Group

Feature 1 is a load out facility located adjacent to a road and on the edge of the Green River floodplain. The sheet steel hopper appears to have been manufactured although no nameplate was found. It measures ten feet square and is eight feet high. A nine-foot high superstructure fabricated from segments of six inch and two inch angle iron supports the hopper. A set of narrow-gauge mine rails runs to the top of the hopper, being mostly supported by the adjacent spoil pile that is approximately 40 feet in diameter and 18 feet high. The downhill (road) side of the spoil pile is retained by 2" by 12" planks held in place by poles, 3" by 6" beams, wire rope, and the support for the hopper. At the top of the hopper, segments of rail and pipe have been crudely welded to provide additional support and a four-foot high railing. The hopper was partially held upright by two segments of one-inch wire rope that connected the hopper to the sandstone ridge to the east and was held in place by embedded drill bits. One section of wire rope still supports the hopper; the other has been broken or cut. This feature is located in an area of thick floodplain vegetation comprised of tamarisk and willow. Artifacts or other features may be located in this vicinity but are not currently visible.

Feature 2 is an abandoned bulldozer located 125 feet to the southwest of Feature 3. This is an Allis Chalmers D14 Diesel equipped with a large winch produced by the Pacific Car & Foundry Company of Renton Washington. One of the track treads had been badly damaged.

Feature 3 is a poured concrete foundation footing measuring 16.5 feet north-south by 12 feet east-west. The footing is eight inches wide and is elevated between one and six inches above the ground surface. At four-foot intervals, ½ inch bolts protrude from the footing. Curiously, there is almost no evidence of a superstructure. It is possible one was never built or that it was salvaged whole. Just to the south is a 12-foot diameter depression with approximately 20 bayonet-opened sanitary cans on the inside. Other artifacts in the vicinity include more sanitary cans, aluminum sardine cans, and clear glass fragments. A metal bed frame and a Serval gas refrigerator identical to the one identified at Feature 6 is also present. This type or refrigerator was produced between the early 1950s and 1965.

Feature 4 is an abandoned portable compressor and a pickup truck located adjacent to the mine adits (Features 13 and 14). The portable compressor, which was produced by Caterpillar, has a 5 ¾ inch bore straight-6 engine, measures four feet across, 14 feet long, and has iron wheels. The tongue and rear truck had been removed and are lying in a wash 20 feet to the east. The attached compressor was produced by Sullivan The flatbed pickup truck, possibly a late 1940s-era Dodge, is located in a wash and has been partially filled with sand and gravel from periodic flood episodes.

Feature 5 is a wood frame privy located adjacent to several large boulders. The privy measures four feet square and, based on the few standing frame components, stood 6.5 feet high. The walls have been mostly knocked down but seem to have been of similar construction to Feature 7, being fabricated from 1" by 10" flooring, 2" by 4" joists and framing, and 1" by 5" tongue-and-groove sheathing. The interior had been lined with corrugated cardboard; no evidence of the roof remains. The privy's seat is crudely formed of 2" by 4"s laid at an angle to provide a triangular-shaped opening.

Feature 6 is a 20-foot diameter push pile of debris and is located 40 feet to the southwest of Feature 7. Most of the debris appears to be portions of the superstructure from Feature 7 and includes 2" by 4"s, 1" by 10"s, and segments of frame walls fabricated from ½" by 5" tongue and groove boards. Other debris includes Alco fiber wallboard, fragments of tarpaper, window screening, wire nails, a Formica-topped kitchen counter, a set of bed springs, auto or truck parts, and barrels. There is also a 'Serval' gas refrigerator produced by Serval Inc. of Evanston, Indiana.

Feature 7 is a building foundation for a wood frame building that measured 14 feet east-west by 12 feet north-south. The foundation is located adjacent to a large natural cliff face of sandstone and rests on a leveled platform that measures 20-foot square and has retention walls made of segments of eight-inch-square beams, rocks, and barrel halves held in place with metal stakes. The floor of the building is mostly intact and is fabricated from ½ " by 10" boards laid on a 2" by 4" frame. Portions of the roof and walls are nearby but are too fragmented to provide any dimensions. Numerous wire nails and fragments of green aggregate tar paper are also present. Artifacts in the vicinity of the feature include fragments of broken white ware plates, barrels and barrel fragments, segments of ½" and ¾" wire rope, wire, glass Mason jar lids, fragments of clear glass, fragments of dimensional lumber, galvanized metal roofing material, and portions of window frames with screens (although no pane glass). An evaporative cooler and a 'Welbilt' gas stove are also present. This feature appears to be the location of a mining residence or small bunkhouse.

Feature 8 is a concrete machine mount located on a slab of exposed sandstone bedrock. The slab is fairly crude and measures six feet east-west by 2.25 feet north-south. The slab is nine inches high on its east side and three inches high on the west. The slab has been attached to its rock foundation by sections of rebar pounded into the rock. Four ¾" threaded screws extend up three inches from the slab to form a rectangle measuring five feet east-west by one foot north-south.

Surrounding the slab, but also embedded into the sandstone bedrock, are the metal supports for what was probably a wood frame superstructure measuring nine feet east-west by six feet north-south. These supports are formed of vertical segments of two-inch pipe with crudely arc-cut 4" by 5" flanges formed of ¼-inch steel plate. Nearby on the ground is a section of a 6' by 9' frame wall fabricated from 2" by 4"s. Artifacts in the vicinity include sanitary cans, an enamel washing machine, and a truck tire. It is unlikely that these artifacts are associated with the feature, which is probably a support for a diesel-powered generator. A nearby pole may have supported a distribution line.

Feature 9 is a small secondary trash deposit near the north end of the site on the edge of the mine dump. This location suggests it was deposited near the end of the site's active mining period. The trash dump measures approximately 20 feet east-west by 30 feet north-south and is comprised of approximately 200 items. These include cut-up 50-gallon barrels, rubber hoses, fragments of sheet metal, chicken wire, fragments of dimensional lumber, window screen fragments, pane glass fragments, dry cell battery cores, lengths of ½-inch wire, fan belts, truck and automotive parts, and many fragments of clear and blue bottle glass. One bottle base has a 1962 Owens-Illinois mark. Many cans are also present. Approximately 70 are bayonet-opened #5 sanitary cans. Others are 12 aluminum Coors beer cans, eight 2 7/8" by 3 7/8 evaporative milk cans that date from 1950 to the present, two one-gallon fuel cans, and three tobacco cans. The feature appears to have been the result of clean-up efforts from elsewhere on the site.

Feature 10 (251709HO1) is a mine adit measuring seven feet wide by five feet high with an associated dump. The interior of the adit is fully box cribbed and extends for an unknown distance into jointed sandstone. The portal is formed from posts and 2" by 10"s. The dump, which is located 40 feet to the west of the mine adit on the floodplain of the Green River, measures 50 feet across, is 15 feet high and contains approximately 1400 cubic yards of fill. A set of mine rails connects the interior of the mine to the dump and adjacent load out facility (Feature 1). The road that descends Spring Canyon and follows the Green River accesses the feature on the river (west) side of the dump and below the load out facility. This area is now partially covered by a tamarisk and willow thicket.

Feature 11 (251710HO1) is a mine adit measuring nine feet wide by nine and one-half feet high with an associated dump. Both are located on the south side of Hey Joe Canyon. The interior is unsupported and extends for an unknown distance into fractured, jointed sandstone; the mine is

flooded from a point 60 feet from the portal. The adjacent dump measures 90 feet across, is 35 feet high and contains approximately 300 cubic yards of fill. A road accesses the feature.

Feature 12 (251710HO2) is a mine adit measuring nine feet wide by nine feet high with an associated dump. Both are located on the north side of Hey Joe Canyon. The interior is unsupported and extends for 50 feet into the purple shale of the Moss Back member of the Chinle formation. The adit slopes down at 15° on a 9° bearing. The adjacent dump measures 25 feet across, is two to three feet high, and contains approximately 25 cubic yards of fill. A road accesses the feature.

Feature 13 (251710HO3) is a mine adit measuring seven feet wide by nine and one-half feet high but with no associated dump. The mine is located on the south side of Hey Joe Canyon and appears to connect on the interior with Feature 14. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. A road accesses the feature.

Feature 14 (251710HO4) is a mine adit measuring seven feet wide by nine and six feet high and with an associated dump. The mine is located on the south side of Hey Joe Canyon and appears to connect on the interior with Feature 13. The interior is unsupported and extends for at least 15 feet into highly fractured, jointed sandstone. A dump, which probably also received spoil from 251710HO3, is located approximately 150 feet to the east of the adit. The dump measures 200 feet across, is ten feet high, and contains approximately 500-800 cubic yards of fill. A road accesses the feature.

42Gr3530, overview of upper canyon portion. View to the northeast.

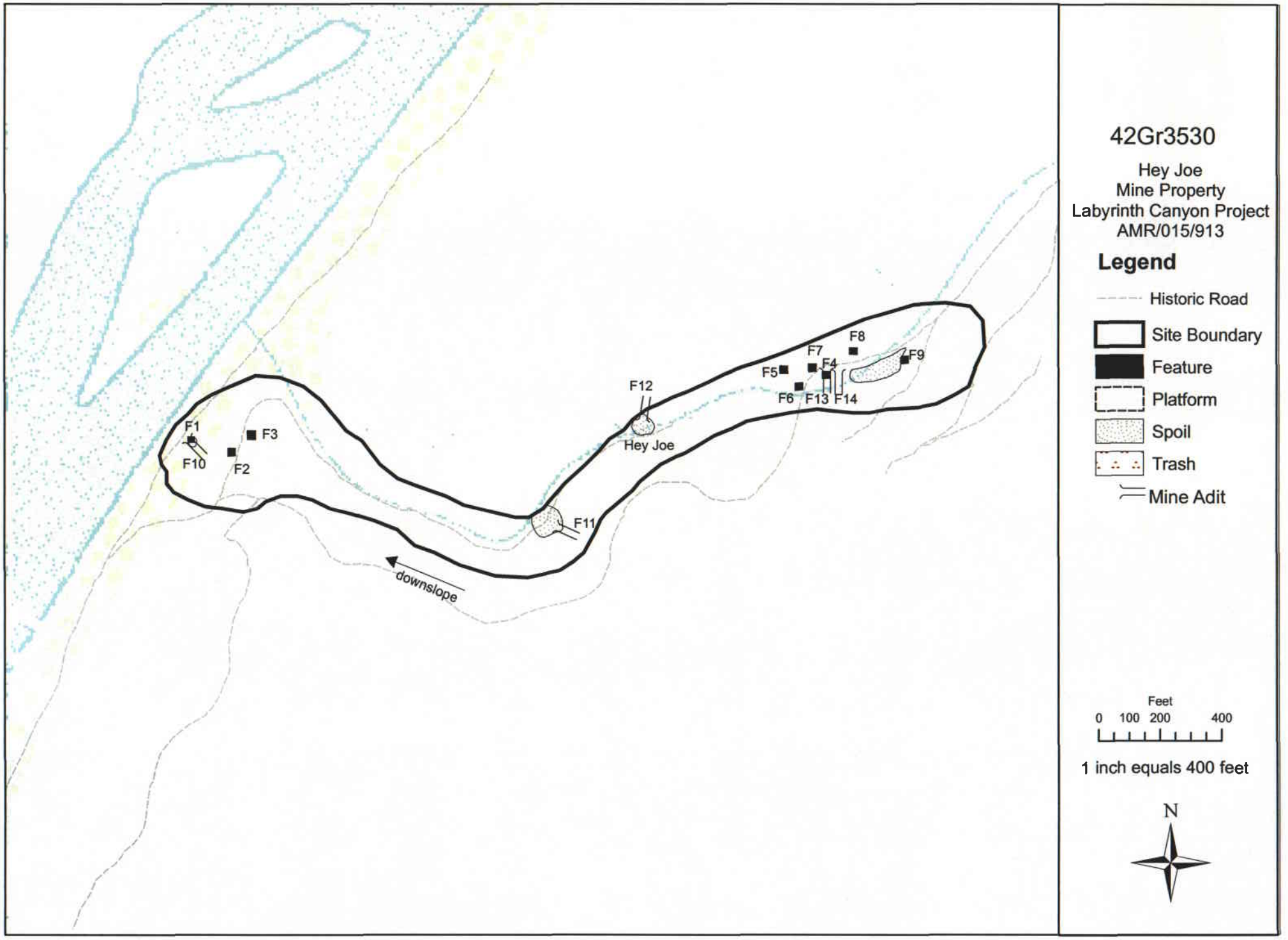
42Gr3530, Feature 8. View to the southeast.

42Gr3530. Artifacts collected by recreationists near Feature 7.

42Gr3530, Features 2 and 3. View to the southwest.

42Gr3530, Feature 10. View to the east.

42Gr3530, Feature 1, View to the northwest.



42Gr3530

Hey Joe
Mine Property
Labyrinth Canyon Project
AMR/015/913

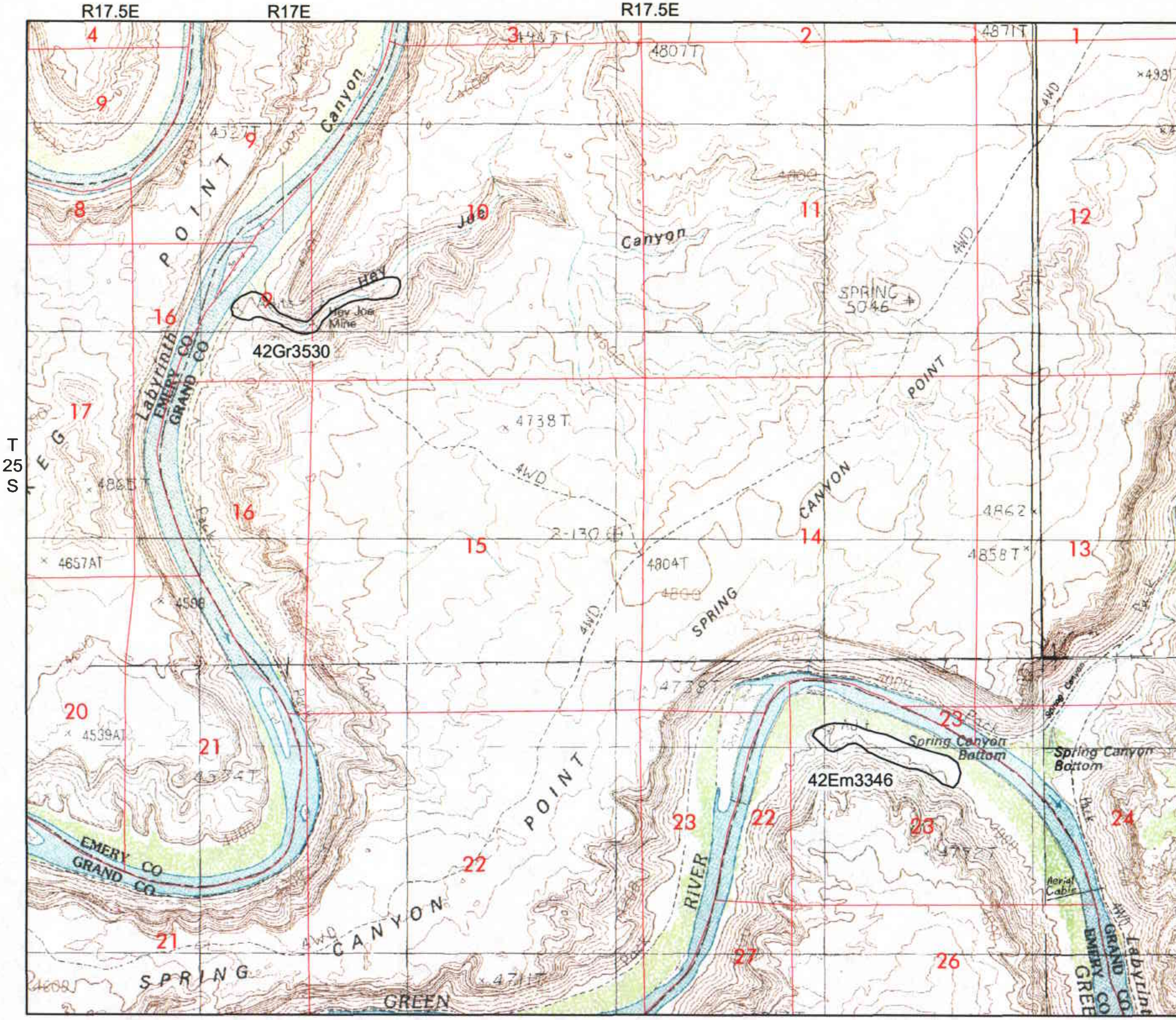
Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

Feet
0 100 200 400

1 inch equals 400 feet

N



Labyrinth Canyon
Abandoned Mine
Reclamation
Project Area
AMR/015/913

Site Boundary

A note about township, range and section:
All sites are in Township 25 South.
On the Emery County side of the river it is Range 17 East.
On the Grand County side of the river it is Range 17.5 East.
Sections end at the river and restart in the new Range on the other side.

Background Image:
USGS 7.5' Quadrangles

Feet
0 500 1,000 2,000

1 inch equals 2,000 feet

N

1990

IMACS ENCODING FORM

Encoder's Name: Everett Bassett

To be completed for each site form.
For instructions and codes, see IMACS Users Guide.

1 State Site Number: 42 - Gr - 003531
2 Agency Site Number: NA -
6 Agency Report Number: NA NA
10 Elevation: 3900
11 Zone: 12 Easting: 588001 Northing: 4272701

A

12: 1/4: — 1/4: N 1/4: SE Sec.: 25 T.: 25 S R.: 17 E
13 Merid.: 1
14 USGS Map: Mineral Canyon 7.5'
17 Owner: LM

18 Forest:
Dist./Park: B6
19 Loc. Cur. Materials:
21 Cond.: B
22 Impacts: SD ER
23 N.R.: D
26 Organ.: EL
28 Survey Date: 16 - 9 - 04
29 Slope: 65
Aspect: 265

30 Water: dstance/type: 4.7 B
31 Geog. Unit: CAS
32 Topographic Locatio: 1st G 2st F
33 Dep.: B
34 Vegetation: R Q R (1 2 3)
35 Misc. Text, Site Name: Cottonwood Mine Property

B

2 Culture/Dating Method:
3 Area:
4 Collect:
5 Depth:
6 Excav. Status:
7 Prehistoric Artifacts:
8 Lithic Tools: # / type:
9 #: Flaking Stages:
11 Ceramics: #/type:
13 Features: # / type:
14 Architecture: # / material / type:

C

2 Historic Themes: MN
3 Culture/Dating Method: EA I
4 Dates: 1953 1960
5 Area: 2,059
6 Collect: A
7 Depth: A
8 Excav. Status: C
9 Artifacts: WD MT MN / WI MD TC / TC WC RB
14 Features: # / type: 2 MN 2 MT 1 TR
15 Architecture: # / material / type:

Printed on 12/9/2004 9:28:16 A

IMACS SITE FORM

Part A - Administrative Data

INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM
Form approved for use by
BLM - Utah, Idaho, Wyoming, Nevada
Division of State History - Utah, Wyoming
USFS - Intermountain Region
NPS - Utah, Wyoming

*1. State No: 42Gr3531
*2. Agency No: none
3. Temp. No: LC-AMR-5

4. State Utah County: Grand
5. Project Labyrinth Canyon Abandoned Mine Reclamation Project
*6. Report No. U-04-EL-1283b
*7. Site Name / Property Name Cottonwood mine properties
8. Class ☐ Prehistoric ☑ Historic ☐ Paleontologic ☐ Ethnographic
9. Site Type uranium mine complex
*10. Elevation 3,900 ft.
*11. UTM Grid 12 588001 m E 4272701 m N
*12. ____ of N of SE of Section 25 T. 25S R. 17E
*13. Meridian (1) SLC (Utah)
*14. Map Reference Mineral Canyon, Utah 7.5' USGS Topo
15. Aerial Photo None
16. Location and Access

Float the Green River to milepost 66 and land river left. Hike up the second canyon south of Spring Canyon. An old road leads to the adits. There is also an old road that accesses the site from Spring Canyon. However, this is now only good for ATVs.

*17. Land Owner (LM) BLM
*18. Federal Administrative Units (B6) Moab
*19. Location of Curated Materials none
20. Site Description

This site is the location of the Cottonwood uranium mine and is located on the steep canyon wall on the east side of the Bowknot Bend of the Green River. 42Gr3531 consists of two mine adits with associated dumps and a portable compressor. To the west of these features and to the east of the dump, a roadway had been bladed to form a 50 by 350-foot platform.

*21. Site Condition ☐ Excellent (A) ☑ Good (B) ☐ Fair (C) ☐ Poor (D)
*22. Impact Agents (SD) Structural Decay, (ER) Erosion
*23. National Register Status (D) Non-significant (Professional Judgment)
Justify This collection of small mines did not provide marketable amounts of uranium ore, contains few cultural features other than the mine openings and associated spoil dumps, and may be less than 50 years of age.
24. Photos LC-1 24-25
25. Recorded by Everett Bassett
*26. Survey Organization Everett Bassett for Utah Div of Oil, Gas and Mining *28. Survey Date 16-Sep-2004
27. Assisting Crew Members Anthony Gallegos, Ken Wyatt

List of Attachments ☐ Part B ☑ Topo Map ☑ Photos ☑ Continuation Sheets
☑ Part C ☑ Site Sketch ☐ Artifact/Feature Sketch ☐ Other: ____
☐ Part E

* Encoded data items

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BLM 8100-1
FS R-4 2300-2
3/90

Part A - Environmental Data

State No: 42Gr3531
Temp. No: LC-AMR-5

***29. Slope** 65 **(Degrees)** 265 **Aspect (Degrees)**

***30. Distance to Permanent Water** 4.7 **x 100 Meters**

***Type of Water Source** (B) River

Name of Water Source Green River

***31. Geographic Unit** (CAS) Green River Desert

***32. Topographic Location** *- See Guide for additional information*

Primary Landform (G) Canyon

Secondary Landform (F) Cliff

Describe The site is located on a near-vertical cliff of the Green River's Labyrinth Canyon.

***33. On-site Depositional Context** (B) Talus

Describe The site is mainly sandstone talus and exposed bedrock comprising the Labyrinth Canyon wall.

***34. Vegetation**

a. Life Zone

☐ Artic-Alpine (A) ☐ Hudsonian (B) ☐ Canadian (C) ☐ Transitional (D) ☑ Upper Sonoran (E) ☐ Lower Sonoran (F)

b. Community

Primary On-Site (R) Barren

Secondary On-Site (Q) Little Sagebrush

Surrounding Site (R) Barren

Describe The slope of the hillside is mostly barren although it contains some black brush, sagebrush, prickly pear cactus and rabbitbrush.

***35. Miscellaneous Text** none

36. Comments/Continuations

none

* Encoded data items

Part C - Historic Sites

Site No.(s) 42Gr3531
N/A
LC-AMR-5

1. Site Type uranium mine complex

***2. Historic Themes** (MN) Mining/Mineral Extraction

	CULTURAL AFFILIATION	DATING METHOD	CULTURAL AFFILIATION	DATING METHOD
***3. Culture**	(EA) European/American	(I) Historical Record		

Describe Historical records indicate the mines were operated by Euro-Americans.

***4. Oldest Date** c. 1953 **Recent Date** c. 1960s

How Determined (I) historical record

5. Site Dimensions 114 m X 23 m ***Area** 2,059 sq. m

***6. Surface Collection/Method**
- [x] None (A)
- [ ] Grab Sample (B)
- [ ] Designed Sample (C)
- [ ] Complete Collection (D)

Sampling Method N/A

***7. Estimated Depth of Cultural Fill**
- [x] Surface (A)
- [ ] 0 - 20 cm (B)
- [ ] 20 - 100 cm (C)
- [ ] 100 cm+ (D)
- [ ] Fill noted but unknown (E)
- [ ] Depth Suspected, but not tested (F)

How Estimated The site dates to the mid 1950s in a location where there is very little soil deposition.

(If Tested, show location on site map)

***8. Excavation Status**
- [ ] Excavated (A)
- [ ] Tested (B)
- [x] Unexcavated (C)

Testing Method N/A

***9. Summary of Artifacts and Debris** *(Refer to Guide for additional categories)*

(WD) dimensional lumber	(WI) wire rope	(TC) truck, truck parts	(RB) rubber hoses
(MT) fuse cord, drill bit	(MD) metal drums	(BL) bolts	
(MN) mine ducting	(TC) sanitary cans	(WC) wood crates	

Describe: see attachment

10. Ceramic Artifacts

Paste	Glaze/Slip	Decoration	Pattern	Vessel Form	Count

a. Estimated Number of Ceramic Trademarks 0

Describe:

11. Glass

Count	Manufacture	Color	Function	Trademark	Decoration

Part C - Historic Sites

Site No.(s) 42Gr3531
N/A
LC-AMR-5

Describe:

12. Maximum Density - #/sq m (glass and ceramics) 0

13. Tin Can

Type	Opening	Size	Modified	Label/Mark	Function
sanitary cans	spout cut	standard oil can		"SAE 30"	motor oil

Describe: Numerous Phillips 66 SAE 30 oil cans are present in the work shop. Several rectangular 1 gallon and 2 gallon fuel cans are also present.

14. Landscape and Constructed Features (locate on site map)** ***- See Guide for additional categories

2 mining adits (MN)		
2 ore dumps (MT)		
1 road system (TR)		

Describe: see attachment

***15. Buildings and Structures (locate on site map)**

Count	Material	Type	Count	Material	Type

Describe:

16. Comments/Continuations - Please make note of any Historic Record searches performed *(County Records, General Land Office, Historic Society, Land Management Agency Records, Oral Histories/Interviews)*

Uranium mining began in this area in 1953 and development of most mines ended between 1957 and 1962 when the federal government ended most of their purchases from small operators.

CONTINUATION SHEET
42Gr3531
Cottonwood Mine Group

Feature 1 (251725HO8) is a mine adit measuring seven feet wide by eight feet high and with an associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. Just inside the portal the adit opens up into a large stoped area that was used on the north side as a tool room. Within the tool room are framed work benches, crates for explosives (Hercules Co.), tools, dimensional lumber, 50 gallon barrels, and oil cans. Just past this stoped area the adit splits, with one tunnel bearing 23° and the other bearing 120°. The dump has been drastically eroded by a wash that runs just to the south of the adit. Adjacent to this wash and partially embedded in the dump is debris, including 6" by 6" beams, tires, barrels, fragments of dimensional lumber, and segments of ¾" wire cable. The remains of the dump are large and contain more than 100 cubic yards of spoil. A road accesses the feature between the adit and the dump.

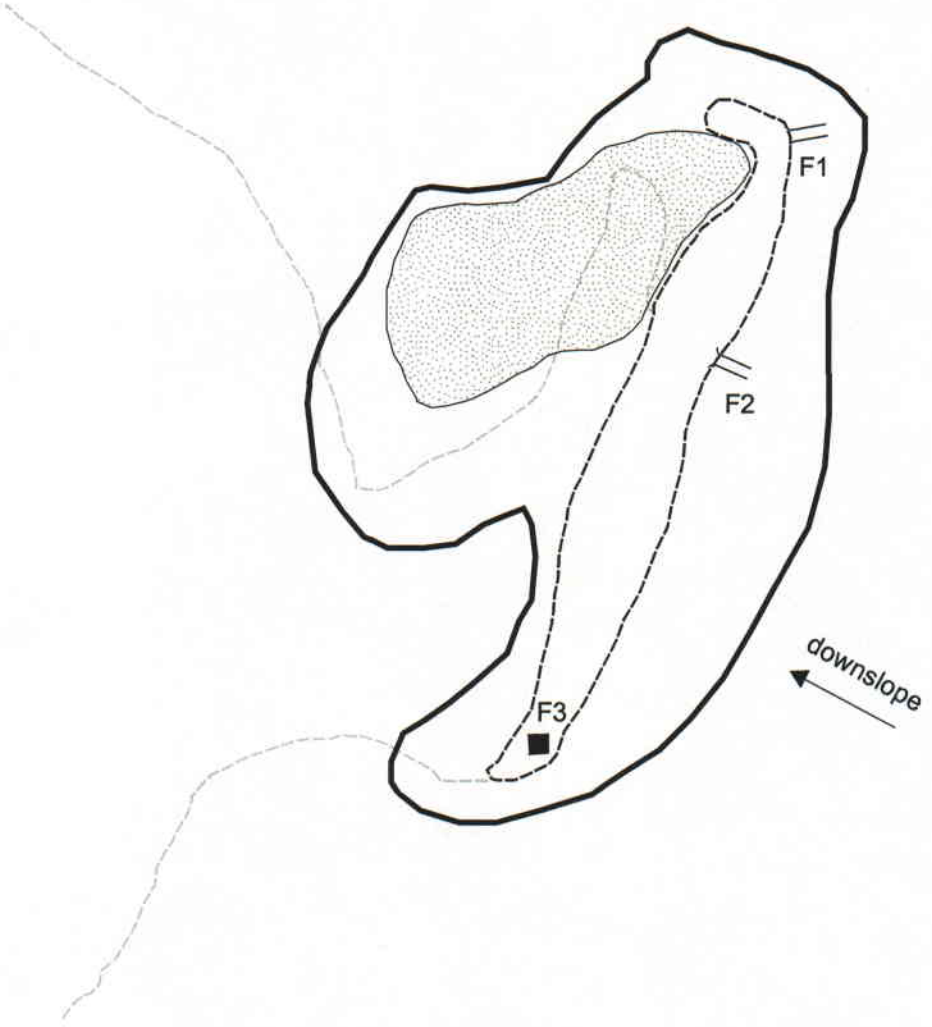
Feature 2 (251725HO9) is a mine adit measuring eight and one-half feet wide by seven feet high and with an associated dump. The interior is unsupported and extends for an unknown distance into highly fractured, jointed sandstone. The adjacent dump is difficult to measure because it has been heavily bulldozed to provide the road and platform in front of the adit. The dump contains in excess of 100 cubic yards of fill.

Feature 3 is a portable compressor that had been abandoned at the extreme southern end of the site. The vehicle, which has a Hercules Engine, had been sold by the Shaw Sales and Service Company of California. The vehicle supports a Chicago Pneumatic air compressor with a 7-4X5 Simplete Valve engine.

Artifacts on the site include pieces of fuse cord, rubber hoses, drill bits, 6' split retention bolts, segments of 18"-wide galvanized mine duct, many lengths of ¾" wire rope, blasting cap boxes, and fragments of dimensional lumber.

42Gr3531, site overview. View to the southeast.

42Gr3531, Feature 3. View to the north.



N

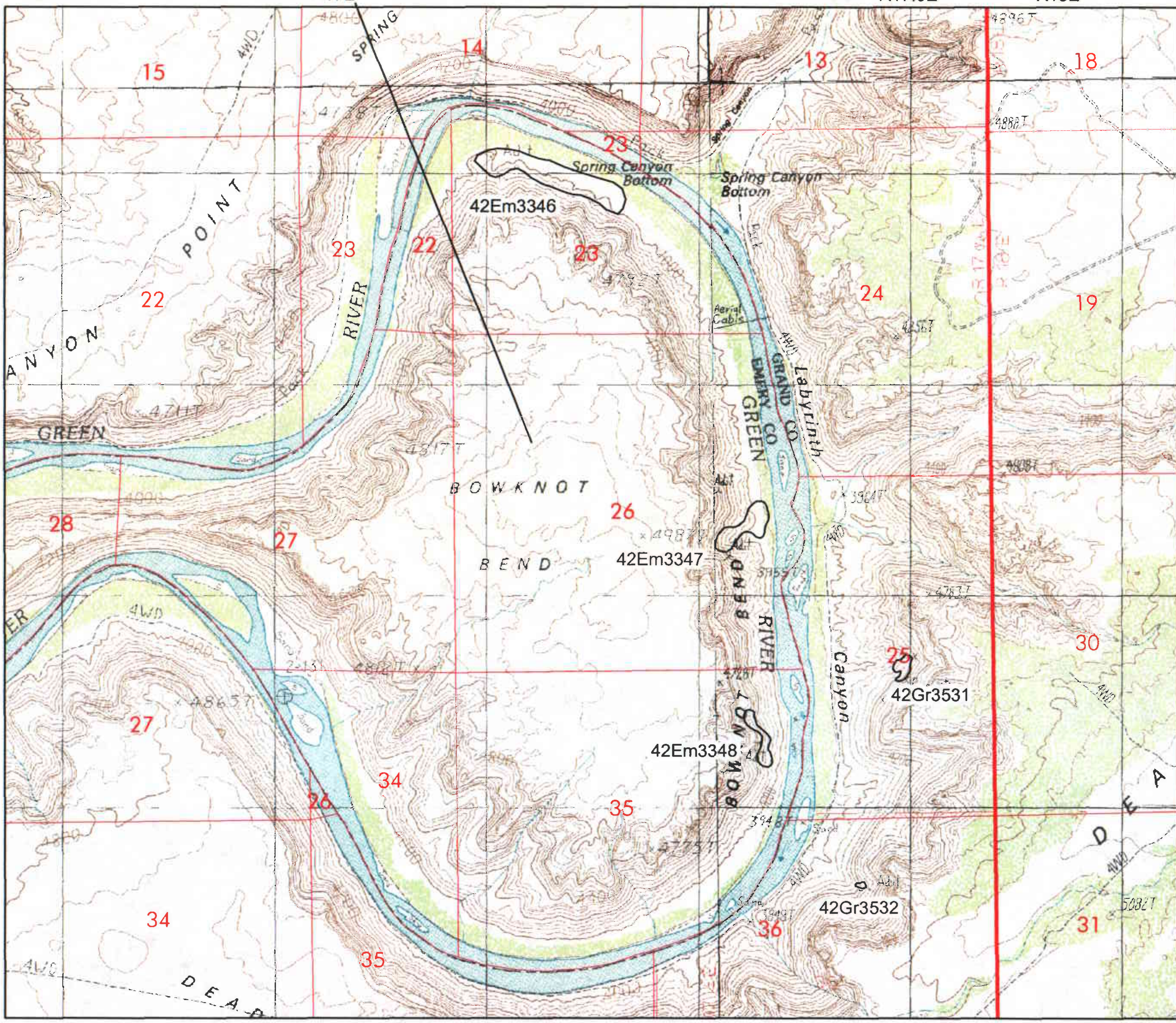
Feet
0 25 50 100

1 inch equals 100 feet

Legend

Historic Road
Site Boundary
Feature
Platform
Spoil
Trash
Mine Adit

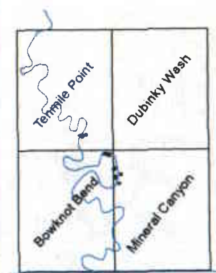
42Gr3531
Cottonwood
Mine Property
Labyrinth Canyon Project
AMR/015/913



Labyrinth Canyon
Abandoned Mine
Reclamation
Project Area
AMR/015/913

Site Boundary

A note about township, range and section:
All sites are in Township 25 South.
On the Emery County side of the river it is Range 17 East.
On the Grand County side of the river it is Range 17.5 East.
Sections end at the river and restart in the new Range on the other side.



Background Image:
USGS 7.5'
Quadrangles

Feet
0 500 1,000 2,000

1 inch equals 2,000 feet

N

1990 IMACS ENCODING FORM

Encoder's Name: Everett Bassett

To be completed for each site form.
For instructions and codes, see IMACS Users Guide.

1 State Site Number: 42 - Gr - 003532
2 Agency Site Number: NA -
6 Agency Report Number: NA NA
10 Elevation: 3890
11 Zone: 12 Easting: 587789 Northing: 4271636

A

12 1/4 1/4 1/4 Sec. T. R.: SW NW NE 36 25 . S 17 . E
13 Merid.: 1
14 USGS Map: Mineral Canyon 7.5'
17 Owner: LM
18 Forest:
Dist./Park: B6
19 Loc. Cur. Materials:
21 Cond.: B
22 Impacts: SD ER
23 N.R.: D
26 Organ.: EL
28 Survey Date: 16 - 9 - 04
29 Slope: 65
Aspect: 285
30 Water: dstance/type: 4.8 B
31 Geog. Unit: CAS
32 Topographic Locatio: 1st G 2st F
33 Dep.: B
34 Vegetation: E
1 R 2 Q 3 R
35 Misc. Text, Site Name: Larry Mine Property

B

2 Culture/Dating Method:
3 Area:
4 Collect:
5 Depth:
6 Excav. Status:
7 Prehistoric Artifacts:
8 Lithic Tools: # / type:
9 #:
Flaking Stages:
11 Ceramics: #/type:
13 Features: # / type:
14 Architecture: # / material / type:

C

2 Historic Themes: MN
3 Culture/Dating Method: EA I
4 Dates: 1953 1960
5 Area: 1,248
6 Collect: A
7 Depth: A
8 Excav. Status: C
9 Artifacts: WD MT
14 Features: # / type: 2 MN 2 MT 1 TR
15 Architecture: # / material / type:

Printed on 12/9/2004 9:28:16 A

IMACS SITE FORM

Part A - Administrative Data

INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM
Form approved for use by
BLM - Utah, Idaho, Wyoming, Nevada
Division of State History - Utah, Wyoming
USFS - Intermountain Region
NPS - Utah, Wyoming

*1. State No: 42Gr3532
*2. Agency No: none
3. Temp. No: LC-AMR-6

4. State Utah County: Grand
5. Project Labyrinth Canyon Abandoned Mine Reclamation Project
*6. Report No. U-04-EL-1283b
*7. Site Name / Property Name Larry mine properties
8. Class ☐ Prehistoric ☑ Historic ☐ Paleontologic ☐ Ethnographic
9. Site Type uranium mine complex
*10. Elevation 3,890 ft.
*11. UTM Grid 12 587789 m E 4271636 m N
*12. SW of NW of NE of Section 36 T. 25S R. 17E
*13. Meridian (1) SLC (Utah)
*14. Map Reference Mineral Canyon, Utah 7.5' USGS Topo
15. Aerial Photo None
16. Location and Access

Float the Green River to Milepost 66 and land river left. The site can be reached by hiking up the abandoned road located directly to the east. An old road also accesses the site from Spring Canyon. However, this is now only good for ATVs.

*17. Land Owner (LM) BLM
*18. Federal Administrative Units (B6) Moab
*19. Location of Curated Materials none
20. Site Description

This site is the location of the Larry uranium mine and is located on the steep canyon wall on the east side of the Bowknot Bend of the Green River. 42Gr3532 consists of two mine adits, a portable structure, and a bulldozed platform that measures approximately 40 feet by 70 feet.

*21. Site Condition ☐ Excellent (A) ☑ Good (B) ☐ Fair (C) ☐ Poor (D)
*22. Impact Agents (SD) Structural Decay, (ER) Erosion
*23. National Register Status (D) Non-significant (Professional Judgment)
Justify This collection of small mines did not provide marketable amounts of uranium ore, contains few cultural features other than the mine openings and associated spoil dumps, and may be less than 50 years of age.
24. Photos LC-1 21-23
25. Recorded by Everett Bassett
*26. Survey Organization Everett Bassett for Utah Div of Oil, Gas and Mining *28. Survey Date 16-Sep-2004
27. Assisting Crew Members Anthony Gallegos, Ken Wyatt

List of Attachments
☐ Part B ☑ Topo Map ☑ Photos ☑ Continuation Sheets
☑ Part C ☑ Site Sketch ☐ Artifact/Feature Sketch ☐ Other:
☐ Part E

* Encoded data items

Printed on 11/12/2004 11:20:1

BLM 8100-1
FS R-4 2300-2
3/90

Part A - Environmental Data

State No: 42Gr3532
Temp. No: LC-AMR-6

***29. Slope** 65 **(Degrees)** 285 **Aspect (Degrees)**

***30. Distance to Permanent Water** 4.8 **x 100 Meters**

***Type of Water Source** (B) River

Name of Water Source Green River

***31. Geographic Unit** (CAS) Green River Desert

***32. Topographic Location** *- See Guide for additional information*

Primary Landform (G) Canyon

Secondary Landform (F) Cliff

Describe The site is located on a near-vertical cliff of the Green River's Labyrinth Canyon.

***33. On-site Depositional Context** (B) Talus

Describe The site is mainly sandstone talus and exposed bedrock comprising the Labyrinth Canyon wall.

***34. Vegetation**

a. Life Zone

☐ Artic-Alpine (A) ☐ Hudsonian (B) ☐ Canadian (C) ☐ Transitional (D) ☑ Upper Sonoran (E) ☐ Lower Sonoran (F)

b. Community

Primary On-Site (R) Barren

Secondary On-Site (Q) Little Sagebrush

Surrounding Site (R) Barren

Describe The slope of the hillside is mostly barren although it contains some black brush, sagebrush, prickly pear cactus and rabbitbrush.

***35. Miscellaneous Text** none

36. Comments/Continuations

none

* Encoded data items

Printed on 11/12/2004 11:23:4

BLM 8100-1
FS R-4 2300-2
3/90

Part C - Historic Sites

Site No.(s) 42Gr3532
N/A
LC-AMR-6

1. Site Type uranium mine complex

***2. Historic Themes** (MN) Mining/Mineral Extraction

	CULTURAL AFFILIATION	DATING METHOD	CULTURAL AFFILIATION	DATING METHOD
***3. Culture**	(EA) European/American	(I) Historical Record		

Describe Historical records indicate the mines were operated by Euro-Americans.

***4. Oldest Date** c. 1953 **Recent Date** c. 1958

How Determined (I) historical record

5. Site Dimensions 30 m X 53 m ***Area** 1,248 sq. m

***6. Surface Collection/Method**
- [x] None (A)
- [ ] Grab Sample (B)
- [ ] Designed Sample (C)
- [ ] Complete Collection (D)

Sampling Method N/A

***7. Estimated Depth of Cultural Fill**
- [x] Surface (A)
- [ ] 0 - 20 cm (B)
- [ ] 20 - 100 cm (C)
- [ ] 100 cm+ (D)
- [ ] Fill noted but unknown (E)
- [ ] Depth Suspected, but not tested (F)

How Estimated The site dates to the mid 1950s in a location where there is very little soil deposition.

(If Tested, show location on site map)

***8. Excavation Status**
- [ ] Excavated (A)
- [ ] Tested (B)
- [x] Unexcavated (C)

Testing Method N/A

***9. Summary of Artifacts and Debris** *(Refer to Guide for additional categories)*

(WD) dimensional lumber
(MT) fuse cord

Describe: The artifacts consist of fragments of dimensional lumber and pieces of fuse cord.

10. Ceramic Artifacts

Paste	Glaze/Slip	Decoration	Pattern	Vessel Form	Count

a. Estimated Number of Ceramic Trademarks 0

Describe:

11. Glass

Count	Manufacture	Color	Function	Trademark	Decoration

Part C - Historic Sites

Site No.(s) 42Gr3532
N/A
LC-AMR-6

Describe:

12. Maximum Density - #/sq m (glass and ceramics) 0

13. Tin Can

Type	Opening	Size	Modified	Label/Mark	Function

Describe:

***14. Landscape and Constructed Features (locate on site map)** - *See Guide for additional categories*

2 mining adits (MN)
2 ore dumps (MT)
1 road system (TR)

Describe: see attachment

***15. Buildings and Structures (locate on site map)**

Count	Material	Type	Count	Material	Type
0					

Describe:

16. Comments/Continuations - Please make note of any Historic Record searches performed *(County Records, General Land Office, Historic Society, Land Management Agency Records, Oral Histories/Interviews)*

Uranium mining began in this area in 1953 and development of most mines ended between 1957 and 1962 when the federal government ended most of their purchases from small operators.

CONTINUATION SHEET
42Gr3532
Larry Mine Group

Feature 1 (251736HO1) is a mine adit measuring seven feet wide by seven feet high and with an associated dump. The interior is supported and extends for an unknown distance into highly fractured, jointed sandstone and shale. The cribbing is four feet wide by six feet high on 6" posts and caps. Three sets of square sets are present on seven-foot centers. Twenty feet inside the adit is a double pair of wooden doors fabricated from 2" by 10"s. The adjacent dump measures 60 feet across, is 60 feet high and contains approximately 840 cubic yards of fill. Feature 2 also shares this dump. A road accesses the feature between the adit and the dump.

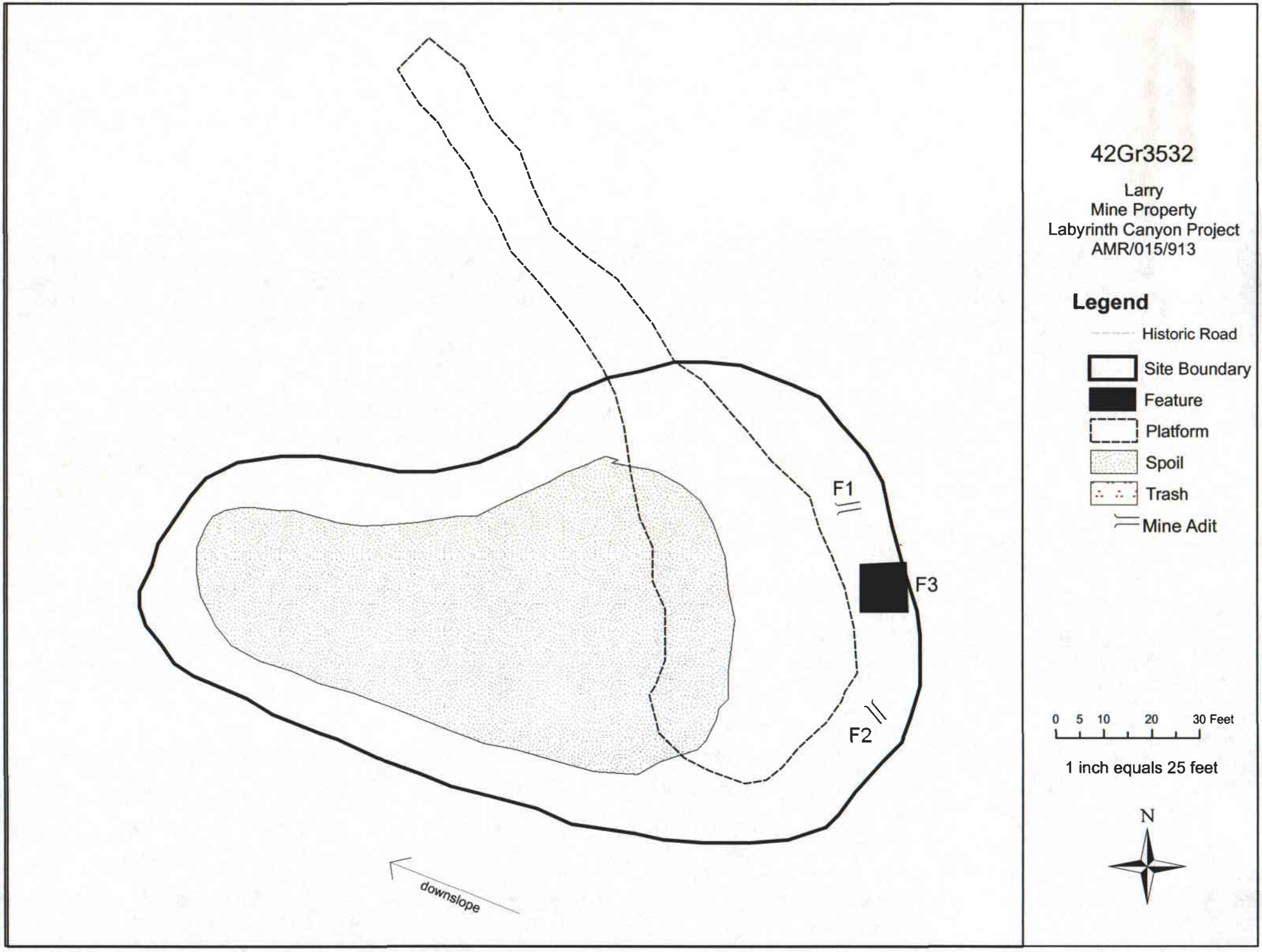
Feature 2 (251736HO2) is a mine adit measuring ten feet wide by eight feet high and with an associated dump. The interior is supported and extends for an unknown distance into highly fractured, jointed sandstone and shale. There are two sets of 6" by 6" cribbing with 2" by 12" lagging on ribs. These are mostly in good condition, although portions are partially collapsed. The adjacent dump measures 60 feet across, is 60 feet high and contains approximately 840 cubic yards of fill. Feature 1 also shares this dump. A road accesses the feature between the adit and the dump.

Feature 3 is a frame box made of 6" by 6" and 2" by 6" planks with a roof made of 2" by 4"s. The entire box forms a five-foot cube. This may have been used in the mine to provide protection for the miners while working on the mine face.

Artifacts on the site include fragments of dimensional lumber and segments of fuse cord.

42Gr3532, site overview. View to the south.

42Gr3532, Feature 3. View to the northeast.



42Gr3532

Larry
Mine Property
Labyrinth Canyon Project
AMR/015/913

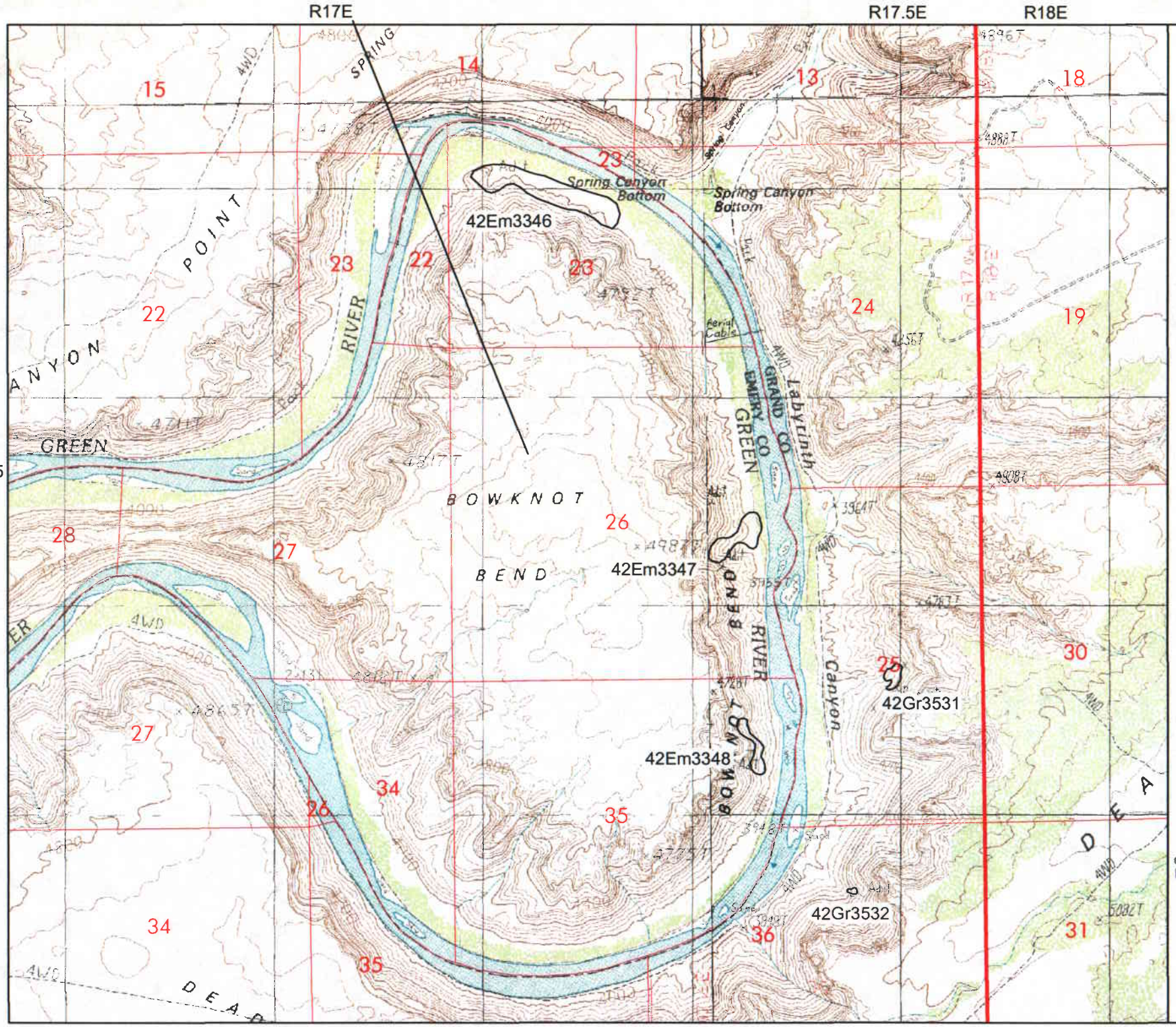
Legend

- Historic Road
- Site Boundary
- Feature
- Platform
- Spoil
- Trash
- Mine Adit

0 5 10 20 30 Feet

1 inch equals 25 feet

N


R17E
R17.5E
R18E
T 25 S
42Em3346
42Em3347
42Em3348
42Gr3531
42Gr3532
Spring Canyon Bottom
Spring Canyon Bottom
POINT
CANYON
GREEN RIVER
BOWKNOT BEND
Labyrinth Canyon
GRAND CO
EMERY CO
GREEN RIVER
Aerial Cable
4WD
Labyrinth Canyon Abandoned Mine Reclamation Project Area AMR/015/913
Site Boundary
A note about township, range and section: All sites are in Township 25 South. On the Emery County side of the river it is Range 17 East. On the Grand County side of the river it is Range 17.5 East. Sections end at the river and restart in the new Range on the other side.
Temple Point
Dubinky Wash
Bowknot Bend
Mineral Canyon
Background Image: USGS 7.5' Quadrangles
Feet
0 500 1,000 2,000
1 inch equals 2,000 feet
N